

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation and Statement of Basis For Renewal of the MAJOR FACILITY REVIEW PERMIT

for
Graphic Packaging International, Inc.
Facility #A0732

Facility Address:
2600 De La Cruz Blvd
Santa Clara, CA 95050-2663

Mailing Address:
2600 De La Cruz Blvd
Santa Clara, CA 95050-2663

Application Engineer: Brenda Cabral
Site Engineer: Carol Lee

Application Number: 8095

June 2011

TABLE OF CONTENTS

A.	Background	3
B.	Facility Description	4
C.	Permit Content.....	6
I.	Standard Conditions	6
II.	Equipment	7
III.	Generally Applicable Requirements	8
IV.	Source-Specific Applicable Requirements.....	10
V.	Schedule of Compliance.....	22
VI.	Permit Conditions.....	23
VII.	Applicable Limits and Compliance Monitoring Requirements	26
VIII.	Test Methods	36
IX.	Permit Shield	36
D.	Alternate Operating Scenarios.....	39
E.	Compliance Status.....	39
F.	Differences between the Application and the Proposed Permit	39
	APPENDIX A BAAQMD COMPLIANCE REPORT.....	40
	APPENDIX B GLOSSARY	43
	APPENDIX C ENGINEERING EVALUATION FOR APPLICATION 257	51
	APPENDIX D ENGINEERING EVALUATION FOR APPLICATION 4696.....	56
	APPENDIX E ENGINEERING EVALUATION FOR APPLICATION 6776	61
	APPENDIX F ENGINEERING EVALUATION FOR APPLICATION 15171	71
	APPENDIX G ENGINEERING EVALUATION FOR APPLICATION 20474.....	74
	APPENDIX H June 25, 1996 Letter from Best Environmental to Air Science Technologies	80

Title V Statement of Basis

A. Background

The Santa Clara mill (Facility) of Graphic Packaging International Inc. (GPI) is a “major facility” and subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and Regulation 2, Rule 6, Major Facility Review, of the Bay Area Air Quality Management District (BAAQMD or District). It is a major facility, pursuant to BAAQMD Regulation 2-6-212, because the actual emissions of regulated air pollutants from GPI exceed 100 tons per year (tpy). Currently, emissions of carbon monoxide, a regulated air pollutant, remain greater than 100 tpy. (When the District began screening for major facilities, it designated GPI a major facility because GPI’s actual emissions exceeded 100 tons per year of a regulated air pollutant.). The facility also emits hazardous air pollutants, but below Title V threshold levels.

Major Facility Operating Permits (Title V permits) must meet the specifications of 40 CFR Part 70, as contained in BAAQMD Regulation 2, Rule 6. Such permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

State and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility within the District’s jurisdiction is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0732.

This facility received its initial Title V permit on February 16, 1999. This application is for a permit renewal. Although the current permit expired on February 16, 2004, it continues in force until the District takes final action on the permit renewal. The proposed permit shows all changes to the permit in strikeout/underline format.

GPI is located at 2600 De La Cruz Boulevard in Santa Clara. It had a sister facility, also called GPI, which was located at 2500 De La Cruz Boulevard in Santa Clara. This plant printed the paperboard. Its facility identifier was A0159.

Facility A0159 was mistakenly given a synthetic minor permit on November 30, 1995. The evaluator must not have realized that there was a contiguous facility under common ownership or control that has an SIC code that shares the same first two digits as Facility A0732 across the street.

Because the two plants met the definition of “facility” in BAAQMD Regulation 2, Rule 6, and the definition of “major source” in 40 CFR 70.2, the second, smaller facility was

also subject to Major Facility Review. However, GPI shut down the plant on September 15, 2010, so a Major Facility Review permit for that facility is no longer required.

As required for Title V permit renewals, the District has reviewed the entire permit, and where appropriate, made corrections and other changes to the initial Title V permit.

B. Facility Description

The Graphic Packaging International Inc. Santa Clara Mill consists of a recycled paperboard mill and combined cycle cogeneration plant, located at 2600 De La Cruz Boulevard in Santa Clara, California. GPI manufactures rolls of recycled paperboard used in the manufacture of packaging of products such as detergent, beer, and cereal boxes. The cogeneration plant provides steam for the paperboard recycling process and generates electricity for use onsite and for sale.

The equipment operated at the Facility includes a gas turbine and duct burner system, a standby boiler, recycle paperboard mill equipment, cold cleaners, an emergency diesel fire pump, exempt storage and process tanks, small exempt combustion equipment, and exempt maintenance activities. The recycling operation utilizes acids and organic compounds to treat and coat the manufactured recycled paperboard product. The combustion sources burn natural gas as the primary fuel. Distillate oil is used as a back-up fuel for the standby boiler and to power the diesel fire pump. The emissions from the Facility include combustion emissions from the cogeneration plant and organic emissions, including organic hazardous air pollutants, from the recycle paperboard mill operation.

Additional details about the operation are found in Section C.IV of this statement of basis.

Following are the details of the Title V permitting history:

Initial Issuance	February 14, 1999
Administrative Amendment: Changes in monitoring report dates	September 28, 2000
Administrative Amendments: Change to the responsible official and title of contact Deletion of Permit Condition 14522, Parts 2 and 3 because the duct burner no longer burns fuel oil. Merger of Permit Condition 14522, Parts 1 and 7 because both of them require use of natural gas. Addition of standard condition I.11 to conform with Manual of Procedures, Volume 2, Part 3,	July 6, 2001

- as amended on May 2, 2001.
- Changes to standard conditions H.2 and H.3 to
with Manual of Procedures, Volume 2, Part 3,
as amended on May 2, 2001.
- Changes to dates of rule and SIP amendments
- Changes to the permit shield language in Section X.B
to conform to Regulation 2, Rule 6, as amended
on May 2, 2001
- Deletion of out-dated SIP rules

Please note that Table II-A, Table II-B and Section VI of the renewed permit contain the sources, abatement devices and permit conditions referenced in this statement of basis.

The following District permitting actions will be incorporated into the permit in this action. The permit evaluations for each District action are incorporated into the appendices.

On September 20, 1999, the District issued a Permit to Operate (Application No. 257) to include three solvent cold cleaners (S11, S12, and S13) as permitted sources. These three existing solvent cold cleaners had been exempt from District permit requirements until September 1, 1999, when District rule amendments became effective.

On May 2, 2002, the District issued a Permit to Operate (Application No. 4696) for S14 diesel-fueled Fire Pump Engine.

On September 19, 2003, the District issued changes to the permit conditions for Gas Turbine (S6) to allow a 7-hour startup period following maintenance activities that involve replacement of parts or controls (Application No. 6776). The conditions allowed for a very restrictive commissioning period following hardware changes. The text of Condition #14522 will be revised as described above.

On November 8, 2006, the District issued an Authority to Construct (Application No. 15171) for replacement of the burners at S7, Duct Burner. The new burners were an identical replacement. The maximum capacity of the burner is 75 MMbtu/hr. However, the new and old burners have a permit to operate at no more than 70.2 MMbtu/hr. In this action, the limit will be explicitly stated in Condition 14522, part 8. The condition will also require fuel meters and recording since the duct burner is required to run at less than maximum capacity.

On May 29, 2009, the District issued a change in conditions for S11, S12, and S13 (Application 20474), Solvent Cleaners to allow the use of methylated siloxanes as solvent to comply with BAAQMD Regulation 8, Rule 16, Solvent Cleaning.

The Facility received its initial Title V permit on February 16, 1999. Jefferson Smurfit submitted Application No. 8095 on August 18, 2003 for renewal of the Facility's Title V permit. Although the current permit expired on February 16, 2004, it continues in force until the District takes final action on the permit renewal.

The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. The proposed permit shows all changes to the permit in strikeout/underline format.

There has been no significant change in emissions since issuance of the initial Title V permit in 1999.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Changes to the standard permit text will be made since the initial Title V Permit for this site was issued. These changes are reflected in the new proposed permit in strikeout/underline format.

The District will make the following changes in the proposed Title V permit renewal:

- Change the facility name from Jefferson Smurfit Corporation to Graphic Packaging International, Inc. to reflect the change of facility ownership. (administrative change)
- Change the title of Rick Horne from Technical Superintendent to Environmental Manager.
- Change the type of facility on the first page from “Recycle Paper Mill” to “Recycled Paperboard Mill & Cogeneration Plant,” which is a more complete description.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, this section of the permit will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District’s General Provisions and Permitting rules.

The District will make the following changes to the permit:

- Update the dates of adoption and approval of District rules in Standard Condition 1.A.
- Add BAAQMD Regulation 2, Rule 5 - Permits, Major Facility Review for Toxic Air Contaminants.
- Add to Standard Condition I.B.1 an “application shield” pursuant to BAAQMD Regulation 2-6-407: "If the permit renewal has not been issued by [], but a complete application for renewal has been submitted in accordance with the

above deadlines, the existing permit will continue in force until the District takes final action on the renewal application.”

- Add the following language to Standard Condition I.B.12 to reiterate that the Permit Holder is responsible for ensuring that all activities at the Facility comply with all applicable requirements: "The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307)."
- Add Standard Condition I.E.1, which requires the permit holder to provide any information, records, and reports requested or specified by the APCO. The Condition was omitted inadvertently previously.
- Delete the startup provisions in Standard Condition I.F, because the Facility has an established monitoring report schedule.
- Modify Condition H to conform to the current standard.
- Add Condition I.J in order to clarify that the capacity limits set forth in Table II-A are enforceable limits.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S prefix and a number (e.g., S24). Permitted sources, listed in Table II-A, are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. Significant sources are those exempt sources that have a potential to emit of more than 2 tons of a “regulated air pollutant,” as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210, per year and would be listed in Table II-C.

All abatement (control) devices that control permitted or significant sources are listed in Table II-B, if necessary. Each abatement device whose primary function is to reduce emissions is identified by an A prefix and a number (e.g., A-24). The facility has no separate abatement devices operated to control permitted sources at this facility (although EPA does consider the steam injection at S6, Turbine, to be a control device). Both the gas turbine and standby boiler are equipped with abatement technology to minimize emissions, but this equipment is considered integral to the sources rather than separate abatement devices. Accordingly, this permit does not include a Table II-B.

Section II, Equipment, is part of the facility description. The Section contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District’s regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403. Significant sources are also included in this section, even if they are not required to hold a District permit to operate.

Following are explanations of the changes to the equipment list from the original Major Facility Review Permit, based on the application for renewal and District actions after 2003:

Devices Removed from Service or Archived since Issuance of the Initial Major Facility Review Permit or submittal of the Renewal Application:

None

Devices with Changed Permit Status:

The following District applications were submitted and evaluated after the issuance of the original Title V permit in February, 1999:

A/N 257: Loss of Exemption for 3 Cold Cleaners, S11, S12 and S13, permits issued 9/99

The 3 cold cleaners in this application were existing sources that were previously exempt. GPI obtained operating permits for these units after the applicable exemption in District Regulation 2, Rule 1 was removed. The cold cleaners are used for equipment maintenance and parts cleaning.

A/N 4696: Loss of Exemption for Emergency Standby Diesel Engine for the diesel fire pump, S14, permit issued 5/02

The Emergency Standby Diesel Engine for the diesel fire pump was also an existing exempt source, pursuant to District Rule 1-110, which that lost its exemption on May 17, 2000 following amendment of District Regulation 1. GPI has obtained an operating permit for this engine.

Significant Sources:

The District has added the following cooling tower to the Title V permit renewal as a significant source. The District had excluded it from the initial Major Facility Permit Title V permit because it had been exempt from District permitting pursuant to Regulations 2-1-128.4 and 2-1-319.1. The cooling tower emits more than 2 tons PM/yr, based on the following calculation. The emission factor of 0.019 lb PM10/1000 gal is taken from the EPA publication, AP-42, Compilation of Air Pollutant Emission Factors, Volume 1, Table 13.4-1.

Cooling Tower-400 gpm. @ 0.019 lb PM10/1000 gal, tower emits 0.0076 lb PM10/min, 0.456 lb PM10/hr, and 3,994 lb PM10/yr or 2.0 ton PM10/yr.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or

unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit:

Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting or soil-vapor extraction equipment.

Section III has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

The note regarding SIP information from the Rule Development Section has been deleted since the SIP standards are now found on EPA's website.

Table III has been updated by adding the following rules and standards to conform to current practice. BAAQMD Regulation 6 has been renamed and renumbered. It is equivalent to SIP Regulation 6.

- BAAQMD Regulation 2, Rule 1, General Requirements
- BAAQMD 2-1-429, Federal Emissions Statement
- SIP Regulation 2, Rule 1, General Requirements
- BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- SIP Regulation 5, Open Burning
- BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements
- SIP Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 8, Rule 2, , Miscellaneous Operations
- SIP Regulation 8, Rule 2, Miscellaneous Operations
- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- SIP Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics "Hot Spots" Information and Assessment Act of 1987
- California Code of Regulations Sections 93115-93115.15, Airborne Toxic Control Measure for Stationary Compression Ignition Engines

- California Code of Regulations Sections 93116-93116.5 , Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

BAAQMD Regulation 8, Rule 51, Adhesive and Sealant Products, has been deleted because the use of adhesives at this facility is governed by BAAQMD Regulation 8, Rule 12.

40 CFR Part 82, Protection of Stratospheric Ozone, was added because the building has an air conditioner that contains ozone-depleting compounds. This equipment does not require District permits, therefore the requirements have been added to Section III, Generally Applicable Requirements.

The dates of adoption or approval of the rules and their "federal enforceability" status in Table III have also been updated.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations of all applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. The District’s policy is to not include citations of exemptions as applicable requirements. Therefore, where no regulation applies to a specific operation due to one or more exemptions under the potentially applicable regulations, the source will not be included

in Sections IV and VII of the permit unless specific permit conditions apply. All monitoring and recordkeeping requirements are also cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section VII of this permit evaluation/statement of basis.

Changes to permit

A table named "IV-Facility" has been added at the beginning of Section IV. This table contains the mandatory reporting of greenhouse gases that is required by California Health and Safety Code and the Code of Federal Regulations.

Section IV has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007. The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change will be made for all sources in this action.

Complex Applicability Determinations

The sources at this facility fall into the following categories:

- Papermaking including recycle paper processes and paper coating
- Cogeneration
- Miscellaneous Support Operations

Papermaking including recycled paper processes and paper coating: GPI has been producing recycled paperboard products since 1957. Recycled papers are mixed in aqueous solutions and mechanically agitated to generate pulp slurries, which are fed to the paper machine to produce 8-ply paperboard products. The machine presses out the free water from the pulp slurry. The resulting fiber mat is then dried on rolling steam-filled cylinder dryers. A continuously-moving felt, is used to form and carry the fiber mat through the wet end of the paper machine. Additional felts aid in drying and formation of the fiber mat in the dryer section.

This recycling paperboard mill includes the permitted steam dryers and associated processes - the sealing process, hot air cap, and the coating process. The plant operates 24 hours a day, year round. The name of S10 has been changed from "Steam Dryers" to "Papermaking including pulping, separation processes, web production, drying, and coating" because the entire process of papermaking takes place and is permitted at this source. The S-10 operations include steam drying, paper sealing, hot air capping, and paper coating.

Steam Dryers: The steam dryers are cylindrical calenders used to process fiberboard paste. (A calender is a machine in which cloth, paper, or the like, is smoothed, by pressing between rotating cylinders.) The steam-filled calenders evaporate water and VOC from the wet paper product. The fiberboard paste contains VOC due to breakdown of the paper fibers.

The steam dryers were installed in 1957 and underwent a maintenance upgrade in 1977, at which time, 17 new steam dryers were added for a total of 102 operating steam dryers. The dryers currently produce approximately 384 tons per day of recycled products with a peak production capacity of approximately 480 tons per day, but currently operate under a permit limit of 146,000 tons annually. The emissions from this phase of the process include VOC from drying of the fiberboard pulp.

Felt cleaning: The felt is cleaned with cleaning agents continuously and simultaneously with the mat making operation. The cleaning agent is applied to the felt at four locations with shower-type spray equipment and is collected by the wastewater collection and treatment system. Hand spray-on solvent cleaners are also applied periodically. There are 3 types of cleaning agents used – an acid, a caustic, and a water-based organic solvent. The organic solvent is the least used of the three cleaning agents.

Sealing Processes: The dried paper product is then sealed with a polymeric mixture of cellulose and vinyl alcohol to lay down any loose fibers. Two components are used separately or combined to seal the paperboard product: a cellulose polymer (CMC) and a polyvinyl alcohol compound (PVA). The sealant concentrate is diluted in water to 3% by volume prior to application. The liquid sealant is applied hot as the paper product rolls through a solution box. These sealants contain less than 2 wt% VOC. The emissions from this process include VOC from evaporation of the sealant.

Hot Air Cap: In 1964, a hot air cap was installed to preheat the paper product after sealing and prior to coating. This equipment had a capacity of 3 MMbtu/hr. The facility states that the hot air cap now uses waste heat instead.

Coating and Sealing Processes (New source numbers S17 and S18): Some paper products are also coated with a clay and latex mixture to provide a white finish. From 1958 to 1989, the Facility operated 2 coaters. In 1989, the Facility replaced the existing coaters and installed a third unit to improve quality and provide added capability. The applicant has shown that the coatings and sealants contain less than 1% VOC in their letter of April 29, 2011, therefore the coating and sealing operations are exempt from permits in accordance with BAAQMD Regulation 2-1-119.2.2. The requirements of the exemptions will be included in the applicable requirements for the coating and sealing processes. Because the applied coatings contain less than 2.2 lb/gal VOC, they also comply with BAAQMD Regulation 8, Rule 12, Paper, Fabric, and Film Coating. After coating, the paper product is dried at 6 natural gas-fired infrared (IR) dryers.

Steam Dryers: Criteria pollutants are emitted from natural gas combustion at the dryers.

In the past, the steam dryers were permitted as S10 and the rest of the equipment was considered to be exempt. The papermaking line actually has several emission points, so the operation has been split into several sources: papermaking, coating, and sealing. The papermaking source description has been changed to "Papermaking including pulping, separation processes, web production, and drying." The felt cleaning operation, the coating operation, and the sealing operation will also be considered separate sources: S16, S17, and S18.

The pulping produces a low concentration of VOC and may produce some methanol because the cellulose in the paper fibers breaks down. Methanol has been found at other recycled paper plants. Part of the VOC, which may include methanol is drawn off in the water and sent to the sewage treatment plant. A portion is driven off the paper during drying. Therefore, the papermaking is considered a miscellaneous source that is subject to BAAQMD Regulation 8, Rule 2, Miscellaneous Operations. The limit in Section 8-2-301 is 15 lb/day of precursor organic compounds and 300 ppm total carbon on a dry basis. This means that both standards must be exceeded at the same time for a source to be out of compliance. The District Source Test Group tested the papermaking operation on November 4, 2004, to determine if it complied with the rule. Although the building where the papermaking is housed has no stacks, it does have 5 vents above the paper making. The test showed that estimated VOC emissions from the vents were about 77.4 lb on the day that testing was performed. However, the concentration as carbon was about 10 ppm. The source must be above both the mass emission limit and the concentration limit to be out of compliance. Since the concentration was so far below the limit (300 ppm as carbon), no monitoring to show compliance with this limit will be imposed. The limit will be added to the Section IV and VII tables for the source.

During the source test on November 4, 2004, the District Source Test Group tested the stream for methanol, a hazardous air pollutant. No methanol was found, so the concentration was below the level of detection, 1 ppm. The concentration of non-methane hydrocarbons (NMOC) was an average of 8 ppm, which is estimated to result in 77.4 lb/day or 14 tons/yr of NMOC emissions. If methanol is no more than one-eighth of the total, methanol emissions are less than 1.8 tons/yr, and the facility does not exceed the major source threshold for methanol, which is 10 tons/yr.

The felt cleaning is subject to BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coating Operations because no other rule in Regulation 8 is applicable to felt cleaning by use of solvents. It is not subject to BAAQMD Regulation 8, Rule 16, because it is a solvent cleaning operation as defined by Section 8-16-220, which states:

Solvent Cleaning Operations: For the purpose of this rule, a solvent cleaning operation is any process, including wipe cleaning, used to clean or dry metal and non-metal surfaces typically using a cold, vapor or conveyORIZED solvent cleaner.

Regulation 8-4-302 requires that the facility emit no more than 5 tons of VOC in a calendar year from Source S-10 (Section 8-4-302.1) or control VOC emissions by a District-approved emission control system with an overall abatement efficiency of 85% on a mass basis (8-4-302.2). (The operational option in Section 8-4-302.3 applies to coatings, not solvents.)

The felt cleaning is also subject to Section 8-4-312, which requires the use of closed containers for any solvent, and several recordkeeping requirements in Section 8-4-501. The felt cleaning is not subject to Section 8-4-313 since the solvent is not being used for surface preparation of a surface prior to coating, as “coating” is defined in Section 8-4-220.

The sealing and coating operations are subject to BAAQMD Regulation 8, Rule 12, Paper, Fabric, and Film Coating. The facility must comply with a coating limit of 2.2 lb VOC/gal excluding water or have an emission control system. The facility will comply with the VOC limit. The Facility is also subject to the requirements in Section 8-12-302 to maintain covers on all tanks and containers and to have no liquid leaks; the requirements in Section 8-12-305 for cleanup solvent; and several recordkeeping requirements in Section 8-12-501.

BAAQMD Regulation 8, Rule 1, General Provisions, has been deleted because S10 is subject to other rules in Regulation 8.

In addition to the steam drying, the papermaking operation has 6 IR dryers with ranging from 1.224 MMbtu/hr to 4.415 MMbtu/hr. The IR dryers burn natural gas. In the past, each of the 6 IR dryers was considered individually and deemed exempt under BAAQMD Regulation 2-1-114.1.2 because each source emitted less than 10 MMbtu/hr. However, because they are part of one large papermaking source, S10, the District will add the requirements of BAAQMD Regulations 6, Rule 1, and 9, Rule 1, for combustion equipment. The District anticipates that the IR dryer equipment will comply easily with the requirements because it burns natural gas. The IR dryer equipment is not subject to BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters. They are neither boilers nor steam generators because they do not generate steam or heat water. They are not process heaters as defined in Section 9-7-217 because this section excludes dryers.

Permit Condition #13344 covers the papermaking operation, (S10). The throughput capacity for S10 was established when the operation was first permitted in Application 25738 in 1995. The engineering evaluation for Application 25738 stated that S10 was a pre-1979 source and therefore a "grandfathered source." Consequently, the current basis listed for Condition 13344, part 1, which specifies the throughput limit, as "Cumulative Increase" is incorrect. The District has replaced "Cumulative Increase" with BAAQMD Regulations 2-1-301 and 2-1-234.3.1.2. The District has also corrected the listed basis for Condition 13344, part 2 by replacing "Cumulative Increase" with BAAQMD Regulations 2-1-301 and 2-1-234.3.1.2 for the same reason. The District also deleted BAAQMD Regulation 2-6-501, "Recordkeeping" as a basis for Condition #13344, part 2 because the District had never imposed recordkeeping in the initial Title V permit.

The District added Regulation 6, Rule 1, Particulate Matter, General Requirements, as a requirement of S10 because it is a minor source of particulate matter due to the minor combustion sources and the drying.

The District also added Regulation 9, Rule 1, Sulfur Dioxide, as a requirement of S10 because of its minor combustion sources. The District anticipates that the IR dryers will comply with the 300 ppm SO₂ limit in Section 9-1-302 because they burn natural gas.

Cogeneration: GPI operates a combined cycle cogeneration plant to produce steam for the recycle paperboard plant and for electricity, which the facility uses onsite or sells under contract to PG&E. The sources consist of a 219 MM Btu/hr gas turbine generator

(S6) and 70 MM Btu/hr supplementary fired duct burner system (S7). The operation of this plant in 1986 eliminated the need for the then-existing steam boiler plant, which was placed in standby use and eventually replaced in 1995 with a single 161 MMbtu/hr standby boiler (S9). The turbine and duct burner system operate continuously except during required maintenance periods. The standby boiler provides low pressure steam (200 psia) for the paper mill when the turbine is down for maintenance or during switchover periods.

The cogeneration plant was initially permitted to run on natural gas or distillate oil. NO_x BACT conditions were 42 ppm_{dv} @ 15% O₂ on natural gas, which was met with water injection. A limit of no more than 0.1% sulfur in the distillate oil was imposed to meet BACT for SO₂ and to ensure that the PSD modeling was representative of actual operating conditions.

Continuous NO_x and either O₂ or CO₂ monitors were also required for BACT, and monitoring of water-to-fuel ratio or steam injection rate was required to meet NSPS 40 CFR 60, Subpart GG.

In 1994, the gas turbine was modified from water injection to steam injection to meet the new Regulation 9, Rule 9 emission standard of 17.2 ppm_{vd} NO_x @ 15% O₂, with the combustion efficiency allowance provided in the regulation. The permit was also modified to allow use of natural gas only. The gas turbine is subject to Regulation 9, Rule 9, and NSPS Subpart GG. The duct burner is subject to Regulation 6, Rule 1, Regulation 9, Rule 1, and permit conditions 14522, parts 5 and 6.

The turbine and duct burner share one stack and are subject to BAAQMD Regulation 1-107, Combination of Emissions, which states:

Where air contaminants from two or more sources are combined prior to emission and there are no adequate and reliable means to establish the nature, extent and quantity of emission from each source, District Regulations shall be applied to the combined emission as if it originated in a single source. Such emissions shall be subject to the most stringent limitations and requirements of District Regulations applicable to any of the sources whose air contaminants are so combined.

Currently, the turbine and the duct burner, have most of the same requirements. However, to comply fully with Regulation 1-107, the District has combined the turbine and duct burner tables. Therefore, it is clear that the turbine emissions limitations apply to the duct burner and vice versa. The only turbine emission limit that does not apply to the duct burner is the fuel sulfur requirement in 40 CFR 60.333(b). The new fuel input limits will apply to each source separately.

40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines

S6, 26 MW Turbine, is subject to Subpart GG because it was built after October 3, 1977 and its capacity is greater than 10 MMbtu/hr. The standard contains a NO_x limit and either a SO₂ limit or a limit on sulfur in fuel.

The NO_x limit that applies to turbines under 30 MW is in Section 60.332(a)(1) and is expressed as the following formula:

$$STD = 0.0075(14.4)/Y+F$$

where:

Y = manufacturer's rated peak load in kJ/W-hr

F = NO_x from fuel bound nitrogen

$$Y = 219 \text{ MMbtu/hr} / 26 \text{ MW} (1.0551 \text{ kJ/Btu}) = 8.89 \text{ kJ/W-hr}$$

(219 MMbtu/hr is the heat load of the fuel input and 26 MW is the output capacity of the gas turbine)

$$\begin{aligned} STD &= 0.0121 \% \text{ NO}_x \text{ by vol at 15\% O}_2 \text{ dry basis} \\ &= 122 \text{ ppmv NO}_x \text{ by vol at 15\% O}_2 \text{ dry basis} \end{aligned}$$

Section 60.334(h)(2) states that fuel nitrogen must be monitored unless the owner/operator claims an allowance for fuel-bound nitrogen. Therefore, the owner/operator will not claim an allowance and F is equal to 0.

Because of an error in the original calculation for the permit that was issued in 1999, the limit was set at 50 ppmv NO_x @ 15% O₂, dry. The limit will be corrected to 122 ppmv NO_x @ 15% O₂, dry.

The emissions averaging period will be corrected to 4 hours. The NSPS, as amended on July 8, 2004, states in Section 60.334(j) that "an hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_x concentration exceeds the ... limit."

The NSPS NO_x limit does not apply during periods of startup, shutdown, and malfunction in accordance with 40 CFR 60.8(c). However, the facility must comply with the duty to minimize emissions during those periods in accordance with 40 CFR 60.11(d).

The monitoring for the NSPS was amended on February 24, 2006. Before the amendments, Subpart GG required daily sampling of gaseous fuel for sulfur and nitrogen if there was no intermediate storage. This requirement had been subsumed by the District's requirement to burn only PUC quality natural gas. The specification for sulfur in PUC quality natural gas is 5 grains per 100 standard cubic feet, well below the 0.8% by weight limit in 40 CFR 60.333(b). A current valid purchase contract, tariff sheet, or transportation contract that specifies that the maximum sulfur content is 20 grains per 100 standard cubic feet or less is now all that is required for natural gas per Section 60.334(h)(3)(i). Monitoring for nitrogen in the fuel is not required unless an allowance is being claimed for fuel nitrogen, so this permit shield is not necessary.

The NSPS now allows the use of CEMs to show compliance with the NO_x limit. Because the CEM will now be used to assure compliance with the standard, Appendices B and F from the NSPS regarding CEMs have been added to the table.

The NSPS NO_x monitoring will no longer be subsumed by monitoring for BAAQMD Regulation 9, Rule 9, because the facility will comply with the NSPS monitoring requirements.

40 CFR 60, Subparts D, Da, Db, and Dc, Standards of Performance for Steam Generating Units

The duct burner is not subject to Subparts D or Da because its capacity (70 MMbtu/hr) is less than 250 MMbtu/hr.

The duct burner is not subject to Subpart Db because its capacity (70 MMbtu/hr) is less than 100 MMbtu/hr.

The duct burner is not subject to Subpart Dc because it was built before 1989.

40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, Subpart YYYY

The above rule was adopted by EPA on March 5, 2004, and amended on August 18, 2004. Graphic Packaging International Inc. is not subject because it is not a major source of hazardous air pollutants as required by Section 63.6085.

40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers, Subpart DDDDD

The above rule was adopted by EPA on September 13, 2004. GPI is not subject because it is not a major source of hazardous air pollutants as required by Section 63.7485.

Applicability of 40 CFR 64, Compliance Assurance Monitoring (CAM)

Per 40 CFR 64.2(a), emission units (as defined in 40 CFR parts 64.1 and 70) may be subject to 40 CFR 64, Compliance Assurance Monitoring, if the units are subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

The only sources that are controlled by an abatement device at this facility are S6, Turbine, and S7, Duct Burner, so CAM will only be considered for these sources.

The definition of emission unit is as follows:

Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term “unit” for purposes of title IV of the Act.

It is not exactly equivalent to the BAAQMD’s definition of source in BAAQMD Regulation 2-1-221, which states:

Source: Any article, machine, equipment, operation, contrivance or related groupings of such which may produce and/or emit air pollutants.

In this case, the emission unit is similar to the “related groupings.” S6, Turbine, and S7, Duct Burner, would be considered to be one “related grouping” and therefore, one emission unit for the purposes of 40 CFR 64.

The turbine is controlled by steam injection, which is included in the definition of control (abatement) devices in 40 CFR 64.1. Steam injection is a control for NOx.

The calculated controlled emissions of NOx for S6, Turbine, and S7, Duct Burner, are about 73 tons per year, so the uncontrolled NOx emissions are likely to be over 100 tons per year.

S6, Turbine, and S7, Duct Burner, are subject to federally-enforceable NOx limits in SIP Regulation 9, Rule 9, Nitrogen Oxides from Stationary Gas Turbines, and in 40 CFR 60.332(a)(2).

S6, Turbine, and S7, Duct Burner, meet the conditions of being controlled, being subject to federally enforceable limits for a pollutant, and having pre-control emissions of that pollutant greater than 100% of the major source thresholds.

Section 64.2(b)(vi) exempts emission units that “emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1.” S6, Turbine, and S7, Duct Burner, are monitored by a continuous emission monitor (CEM) for NOx, which is required by SIP Regulation 9, Rule 9, and the part 70 (Title V) permit. Therefore, the emission units (SIP Regulation 9, Rule 9) are exempt from CAM.

Title IV, Acid Rain

The turbine is exempt from Title IV of the Clean Air Act, Acid Rain, in accordance with the exemption in 40 CFR 72.6(b)(4) because it is a cogeneration facility that was built prior to 1990 and because it always supplies less than 219,000 MW-hrs/yr to a utility power distribution system. However, the facility sells more than one-third of its electrical output, which is also a condition for applicability. Therefore, if the facility sells more than 219,000 MW-hrs/yr to a utility power distribution system for 3 calendar years, it will become subject to the Acid Rain program.

BAAQMD and SIP Regulation 9, Rule 9

The District amended BAAQMD Regulation 9, Rule 9, Nitrogen Oxides from Stationary Gas Turbines, on December 6, 2006.

Effective January 1, 2010, the limit for S6 (and therefore, S7) in Section 9-9-301.2 is 15 ppm NOx @ 15% O₂, dry, or 0.7 lb NOx/MW-hr. Until January 1, 2010, the limit in Section 9-9-301.1.2 as modified by Section 9-9-401 is 15 ppm NOx @ 15% O₂, dry.

S9, Standby boiler

The standby boiler was permitted as a standby unit with annual operating hours not to exceed 1000 hours on natural gas and 100 hours on fuel oil in the event of natural gas curtailments. It was permitted under Application 14529, which was issued on May 11,

1995. NO_x was limited to 25 ppmvd @ 3% O₂, CO to 60 ppmvd @ 3% O₂, sulfur content not to exceed 0.05% in the fuel oil, and visible emissions to Ringelmann 0.5 as BACT requirements. The standby boiler is subject to Regulations 6, Rule 1, and Regulation 9, Rules 1 and 7.

The standby boiler is subject to NSPS, Subpart Db, because it was built in 1995 and has a capacity of 161 MMbtu/hr. The initial major facility permit did not identify Subpart Db as an applicable requirement; the District is correcting that error in this Title V renewal. S9 is not subject to Subparts D or Da because the capacity is less than 250 MMbtu/hr, and it is not subject to Subpart Dc because the capacity is more than 100 MMbtu/hr.

The boiler complies with the SO₂ requirements when burning fuel oil by using only "very low sulfur" fuel which is defined in Section 60.41b as "an oil that contains no more than 0.5 weight percent sulfur." The facility is required to maintain fuel oil receipts as stipulated in Section 60.45b(j) and described in Section 60.49b(r). There is no SO₂ requirement when burning natural gas exclusively. If the owner/operator uses this option, the owner/operator is not subject the compliance and performance test methods and procedures for sulfur dioxide.

The boiler is allowed to burn fuel oil; therefore, it is subject to the opacity standard in Section 60.43b(f). The limit does not apply during startup, shutdown, or malfunction.

S9 is not subject to Section 60.43b(b) because, although it can burn oil for up to 100 hours per year, it does not use any technology to reduce SO₂ emissions. It is not subject to the 0.030 lb PM/MMbtu limit in Section 60.43b(h)(1) because it was built before February 28, 2005. There is no other PM mass emission limit in the standard for units that burn oil.

The boiler is not subject to the NO_x limits because the owner/operator will comply with the 10% capacity factor option in Section 60.44b(k). An annual heat input limit has been added as BAAQMD Condition 12231, part 4a to ensure that the source remains at 10% of capacity.

S9 was subject to an initial opacity test in accordance with Section 60.46b(d)(7). The source is not subject to a PM concentration limit or a mass emission limit so no other performance testing for particulate is required.

The facility has submitted documentation dated June 25, 1996, that the original opacity test was performed and that the boiler was found to be in compliance. The documentation is attached in Appendix H.

S9 is not subject to continuous NO_x monitoring because the owner/operator will comply with the 10% capacity factor option in Section 60.44b(k). The facility submitted Application 23073 in 2011 to voluntarily limit the operation to 875 hrs/yr. This condition was added as a synthetic minor condition in part 2b of condition 12331. Since the condition will be in a permit that will go through public notice and EPA review, it will become federally enforceable.

S9 is subject to all of the reporting and recordkeeping requirements of Section 60.49b except those requirements listed below.

- NOx performance testing in Section 60.49b(b)
- Plan to monitor steam generating unit operation conditions in 60.49b(c)
- Records of nitrogen content of residual oil in 60.49b(e)
- Records of NOx monitoring in 60.49b(g)
- Reports of NOx monitoring in 60.49b(i)
- Reports regarding SO2 emissions in 60.49b(k)
- Reports regarding SO2 emissions in 60.49b(l)
- Minimum SO2 data requirements in 60.49b(m)
- Reports regarding reductions in SO2 emissions in 60.49b(n)

In 1996, the source was subject to the requirement to submit the maximum heat input capacity data demonstration in Section 60.49b(b). There is no documentation that the demonstration has been submitted. The applicant consulted with staff at EPA Region 9 and was told that the time for the demonstration had passed and that there was no ongoing requirement for the demonstration. Therefore, the requirement will not be added to the permit and it will not be added to the Schedule of Compliance.

S9 is also subject to BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters. The rule was amended on July 30, 2008. S9 is subject to Section 307.1, but since it cannot burn fuel oil and natural gas at the same time, it is not subject to the weighted-average NOx limit in Section 9-7-301.3 and the monitoring in Section 9-7-501.

Section 307 imposes more stringent limits on boilers starting on January 1, 2013. However, most limits in 307, 311 and 312 will not apply to S9 because the facility will limit its use to 10% of its capacity in accordance with the exemption in Section 9-7-112. Section 9-7-307.10 will apply, which is identical to ~~existing~~ the old limits in Section 9-7-301.

Since the rule was amended, the District rule and the SIP rule are no longer the same. The SIP rule has been added to the table.

Miscellaneous

GPI also operates 3 cold cleaners, S11, S12, and S13, which were exempt from District permitting requirements until the exemption was removed in September 1999. GPI operates the cold cleaners for equipment maintenance and parts cleaning. The cold cleaners are listed as Sources 11, 12, and 13. The cold cleaners comply with BAAQMD Regulation 8, Rule 16, Solvent Cleaning Operations, by using methylated siloxanes as the solvent.

GPI also has a permit for an emergency diesel fire pump, S14, which was exempt at the time the original Major Facility Review Permit was issued. The emergency diesel pump is now permitted because the exclusion for emergency engines in BAAQMD Regulation 1-110 was deleted on May 17, 2000. The combustion emissions from these sources are

subject to the standards in Regulation 6, Rule 1, and Regulation 9, Rules 1 and 8. They are exempt from Regulation 8, under Section 8-1-110.2.

SIP Regulation 1-110 still excludes emergency standby engines used exclusively for backup power from regulation. Therefore, District requirements for emergency standby engines are not federally enforceable.

The engine was subject to BAAQMD Condition 19085. It will be subject to BAAQMD Standard Condition 22851 for fire pumps. Monitoring for sulfur content of fuel is no longer included in the standard condition because only CARB low-sulfur diesel is available.

Chemical Accident Prevention Provisions, 40 CFR Part 68: The facility is not subject to the requirements of this rule, including submittal of a Risk Management Plan (RMP), because the Facility does not store sufficient quantities of any of the regulated substances listed in 40 CFR 68.130.

Air Toxics “Hot Spots” Information and Assessment Act of 1987, California Health and Safety Code Section 44300 et seq., California Assembly Bill 2588 (AB2588): The Facility is subject to the AB2588 requirements, listed in the Generally Applicable Requirements, Section III of the permit. GPI has been designated a Level 0 facility, which is a medium priority facility with a prioritization toxic score greater than 1 but less than 10 (total offsite cancer risk less than 10 in a million). As a result of being designated a Level 0 facility, with overall risk of less than 10 in a million, GPI is not required to perform a risk assessment, issue public notifications under this program, or undertake any risk reduction measures.

Airborne Toxic Control Measure for Stationary Compression Ignition Engines, California Health and Safety Code Title 17, Section 93115

S14, Fire Pump Engine, is exempt from the emission limits in this standard, if it operates no more than the number of hours necessary to comply with the testing requirements of National Fire Protection Association (NFPA) 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. The number of hours allowed is 34 hours/yr. It is subject to other requirements of the ATCM and to BAAQMD Standard Condition #22851.

The engine is more than 500 feet of a school and therefore complies with Section CCR 93115.6(b).

The ATCM is a state standard and is therefore not federally enforceable.

Regulation for the Mandatory Reporting of Greenhouse Gas Emissions: California Health and Safety Code Title 17, Subchapter 10, Article 2

The facility is subject to the California greenhouse gas reporting requirements, which have been placed in a new Section IV Table, IV-Facility.

40 CFR 98, Mandatory Greenhouse Gas Reporting

The facility is subject to the federal greenhouse gas reporting requirements, which have been placed in a new Section IV Table, IV-Facility.

S6, Turbine

The continuous emission monitoring (CEM) requirements in BAAQMD Regulation 1, Sections 520 and 522, were added because BAAQMD Regulation 9, Rule 9, and BAAQMD Condition 14522, part 5, require a CEM for NO_x.

An hourly heat input limit based on the original permit in 1986 has been added to the table.

S7, Duct Burner

The continuous emission monitoring (CEM) requirements in BAAQMD Regulation 1, Sections 520 and 522, were added because BAAQMD Condition 14522, part 5, requires a CEM for NO_x.

BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements, and SIP Regulation 6, Particulate Matter and Visible Emissions, have been added because combustion is a source of particulate.

An hourly heat input limit based on the original permit in 1986 has been added to the table.

S9, Standby Boiler

BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements, and SIP Regulation 6, Particulate Matter and Visible Emissions, have been added because combustion is a source of particulate.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10, which provides that a major facility review permit shall contain the following information and provisions:

409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of

compliance were not or will not be met, and any preventive or corrective measures adopted.”

The BAAQMD Compliance and Enforcement Division conducted a compliance review. The District found that there is no ongoing non-compliance and no recurring pattern of violations.

The compliance report is contained in Appendix A of this permit evaluation/statement of basis.

Changes in this action

The phrase "on a timely basis" has been added to the standard language to conform more closely to BAAQMD Regulation 2, Rule 6, Major Facility Review.

VI. Permit Conditions

Each permit condition is identified with a unique numerical identifier, up to five digits. The Title V permit contains all permit conditions for the permitted sources listed in Section II. During the Title V permit development, the District reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for consistency, clarity, and enforceability.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit. All changes to existing permit conditions due to the Title V review are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all "strike-out" language will be deleted; all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new limits on sources to help ensure compliance with District rules addressing preconstruction review. In particular, throughput limits for S6, Gas Turbine and S7, Duct Burner, have been imposed based on their original application for construction.

The applicability of preconstruction review depends on whether there is a “modified source” as defined in District Regulation 2-1-234. Whether there is a modified source depends in part on whether there has been an “increase” in “emission level.” Regulation 2-1-234 defines what will be considered an emissions level increase.

Sources that were modified or constructed since the District began issuing new source review permits will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding “emission level” for purposes of Sections 2-1-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as “grandfathered” sources), an “increase” in “emission level” is addressed in Section 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 2) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is “bottlenecked”), then the relaxing of that limitation (“debottlenecking”) is considered a modification.

S10, Papermaking, is the only source that was built before the District began issuing new source review permits,

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition, imposed by the APCO, which limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District’s Toxic Risk Management Policy.

Changes to permit conditions in this action

Condition 14522, part 1, has been amended to say that the duct burner, S7, may only be fired on natural gas because the facility gave up the permit to burn fuel oil at S7 in the administrative amendment that was issued on July 6, 2001.

Condition 14522, part 4, has been amended to incorporate changes approved in Application 6776. The following language:

“The steam injection system to control NO_x emissions from S6 Turbine shall be operated during all periods of gas turbine operation except during times of start-up, shutdown, and inspection and maintenance pursuant to Regulation 9-9-113

and 9-9-114. The steam injection rate shall be controlled by the gas turbine control system at all times during the operation of the turbine.”

has been replaced with:

The owner/operator shall not operate the turbine unless the steam injection system to control NOx emissions from S6 Turbine is in operation, except during times of start-up and shutdown pursuant to Regulation 9-9-114. The start-up period may be followed by a commissioning period of no more than 4 hours, during which the steam injection system is not required, if one or more of the following activities were conducted during the shutdown:

- Replacement of more than 1/3 of the duct burners
- Replacement of steam injection parts
- Replacement of gas compressor parts
- Computer control system upgrades
- Gas turbine fuel nozzle replacement

The commissioning period shall end when the steam injection system is in operation and the turbine is in compliance with Regulation 9-9-305. The turbine shall be operated in low-fire mode during the commissioning period. The steam injection rate shall be controlled by the gas turbine control system at all times during the operation of the steam injection system.

The basis for this change is contained in the engineering evaluation for Application 6776, which forms part of this statement of basis and is attached in Appendix C.

Hourly throughput conditions for S6, Gas Turbine, and S7, Duct Burner, have been added as parts 7 and 8 of Condition 14522. The throughputs were established in the Application 29476 in 1984 and have not been modified.

An annual heat input limit has been added to BAAQMD Condition 12231 to ensure that the S9, Standby Boiler, remains at 10% of capacity in accordance with 40 CFR 60.44b(k).

The source test condition in Condition 12231, part 12, for S9 has been amended. This was the original condition requiring startup testing. The startup testing was completed by 1996. The condition has been amended to require testing for the NOx and CO limits once per permit term.

Condition 12231, part 12, has been amended to require certification of fuel sulfur for the fuel oil burned at S9.

The source description for S10 in Condition 13344 was changed to include all papermaking operations.

The capacity for the papermaking operation was established when the operation was first permitted in Application 25738 in 1995. The engineering evaluation states that the source is a pre-1979 source and is therefore a "grandfathered source." Therefore, the basis for Condition 13344, part 1 is not "Cumulative Increase." The basis has been

corrected to BAAQMD Regulations 2-1-301 and 2-1-234.3.1.2. Also, the basis for Condition 13344, part 2, should not include BAAQMD Regulation 2-6-501 because the recordkeeping was not imposed as part of the initial Title V permit. The basis for part 2 has been changed to the same basis as part 1.

Condition 16714 for S11-S13, Cold Cleaners, was amended by Application 20474 on May 27, 2009 to allow the use of methylated siloxanes as solvent to comply with BAAQMD Regulation 8, Rule 16, Solvent Cleaning. (The sources received a permit pursuant to Application 257.)

Condition 22851 for S14, Fire Pump Engine, has been added. Condition 19085 is also shown in strikeout. Condition 19085 was imposed on S14, Fire Pump Engine, by Application 4696 on May 2, 2002. After California adopted the ATCM for Stationary Compression Ignition Engines in 2005, Condition 19085 was deleted, and the new standard condition for fire pump engines was imposed.

VII. Applicable Limits and Compliance Monitoring Requirements

Section VII of the permit is a summary of only the numerical limits and monitoring requirements for each source. Therefore, this section of the permit will not contain *all* of the requirements that are listed in Section IV of the permit, which is a complete list of applicable requirements, including emission limits and monitoring. The summary in Section VII includes a citation of the numerical limits and corresponding monitoring, frequency of monitoring, and type of monitoring.

The District has reviewed all monitoring and has determined the existing monitoring is adequate to provide a reasonable assurance of compliance with the exceptions and explanations noted in the tables below.

Monitoring decisions are typically the result of balancing several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the

nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

Following is a review of monitoring for various limits. It is grouped by the pollutant that is being controlled.

NO_x Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S6, Turbine, S7, Duct Burner	BAAQMD 9-9-301.1.2 and SIP 9-9-301.2	17.2 ppmv @ 15% O ₂ , dry	CEM
	BAAQMD 9-9-301.2	15 ppm @ 15% O ₂ , dry or 0.7 lb/MW-hr	CEM
	NSPS, 40 CFR 60.332 (a)(2)	122 ppmv @ 15% O ₂ dry	CEM
S9, Standby Boiler	BAAQMD Permit Condition 12231, part 7	25 ppmv @ 3%O ₂ , dry when firing natural gas	Source test/every 5 years
	BAAQMD Permit Condition 12231, part 8	60 ppmv @ 3%O ₂ , dry when firing distillate oil	Source test/every 5 years
	BAAQMD 9-7-301.1	30 ppmv @ 3%O ₂ , dry when firing gaseous fuel	Source test/every 5 years
	BAAQMD 9-7-305.1	150 ppmv @ 3%O ₂ , dry when firing non-gaseous fuel during natural gas curtailment	None
S9, Standby Boiler	BAAQMD 9-7-306.1	150 ppmv @ 3%O ₂ , dry when firing non-gaseous fuel during testing	None

NO_x Discussion:

S6, Turbine, and S7, Duct Burner

The NO_x emissions from the turbine and the duct burner are monitored with a CEM, which the District considers adequate monitoring.

S9, Standby Boiler

The District will not impose continuous monitoring for NO_x for the standby boiler because the boiler operation is limited to 1000 hours/year on natural gas and 100 hours/year on distillate oil. Therefore, the potential to emit for NO_x is very low as long as the boiler complies with its BACT limits. The calculations using the factors in the original Application 14529 are shown below:

Boiler capacity = 161 MMbtu/hr

Natural Gas NO_x factor = 0.0298 lb/MMbtu

Hours of operation burning natural gas = 1000/yr

NOx emissions during natural gas combustion = 2.4 tons/yr

Distillate Oil NOx factor = 0.804 lb/MMbtu

Hours of operation burning distillate oil = 100/yr

NOx emissions during distillate oil combustion = 0.6 tons/yr

The District will require a source test every five years to ensure that the boiler meets the NOx limits when burning natural gas. More frequent monitoring is unnecessary because the boiler operates infrequently.

CO Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S9, Standby Boiler	BAAQMD Permit Condition 12231 part 9	50 ppmv @ 3% O ₂ , dry	Source test/every 5 years
	BAAQMD 9-7-301.2	400 ppmv @ 3% O ₂ , dry	Source test/every 5 years
	BAAQMD 9-7-305.2	400 ppmv @ 3% O ₂ , dry	Source test/every 5 years
	BAAQMD 9-7-306.2	400 ppmv @ 3% O ₂ , dry	Source test/every 5 years

CO Discussion:

S9, Standby Boiler

The District will not impose continuous monitoring for CO for the standby boiler because the boiler operation is limited to 1000 hours/year on natural gas and 100 hours/year on distillate oil. Therefore, the potential to emit for CO is very low as long as the boiler complies with its BACT limits. The calculations using the factors in the original Application 14529 are shown below:

Boiler capacity = 161 MMbtu/hr

Natural Gas CO factor = 0.0298 lb/MMbtu

Hours of operation burning natural gas = 1000/yr

CO emissions during natural gas combustion = 2.9 tons/yr

Distillate Oil CO factor = 5 lb/Mgal oil

Mgal oil burned/hr = 2.55

Hours of operation burning distillate oil = 100/yr

CO emissions during distillate oil combustion = 0.6 tons/yr

The District will require a source test every five years to ensure that the boiler meets the CO limit while burning natural gas.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S6, Turbine; S7, Duct Burner	BAAQMD 9-1-301	Federal std.: GLC ¹ of 140 ppb, 24-hr average, once/yr and 30 ppb, annual average State std.: GLC ¹ of 40 ppb, 24-hr average, and 250 ppb, 1 hr average	none
	BAAQMD 9-1-302	300 ppm (dry)	none
	NSPS Subpart GG 40 CFR 60.333(b)	Fuel sulfur content of 0.8 percent by weight	None
S9, Standby Boiler	BAAQMD 9-1-301	Federal std.: GLC ¹ of 140 ppb, 24-hr average, once/yr and 30 ppb, annual average State std.: GLC ¹ of 40 ppb, 24-hr average, and 250 ppb, 1 hr average	none
S9, Standby Boiler	BAAQMD 9-1-302	300 ppm (dry)	none
	BAAQMD 9-1-304	Sulfur content of distillate <0.5% by weight	Fuel certification
	BAAQMD Cond #12231 Part 10	Sulfur content of distillate <0.05% by weight	Fuel certification
	40 CFR 60.42b(d)	S < 0.5 wt%, 24 hour average when burning oil; limit applies at all times	Records of fuel receipts
S10, Papermaking	BAAQMD 9-1-301	Federal std.: GLC ¹ of 140 ppb, 24-hr average, once/yr and 30 ppb, annual average State std.: GLC ¹ of 40 ppb, 24-hr average, and 250 ppb, 1 hr average	none
	BAAQMD 9-1-302	300 ppm (dry)	none
S14, Fire Pump Engine	BAAQMD 9-1-301	Federal std.: GLC ¹ of 140 ppb, 24-hr average, once/yr and 30 ppb, annual average State std.: GLC ¹ of 40 ppb, 24-hr average, and 250 ppb, 1 hr average	none
	BAAQMD 9-1-304	Sulfur content of distillate <0.5% by weight	none

¹ Ground Level Concentration

SO2 Discussion:

The APCO has the discretion to require area monitoring to demonstrate compliance with the ground level SO2 concentration requirements of Regulation 9-1-301 (per BAAQMD Regulation 9-1-501). The Facility does not have equipment that emits large amounts of SO2. Consequently, the APCO will not impose ground level monitoring. Following are calculations of the potential to emit SO2 at the Facility. The SO2 emission factor for natural gas combustion is the District standard factor. The distillate oil factor for S9 is based on AP-42 Table 1.3-1 and the limit of 0.05% sulfur by weight in BAAQMD 12231, part 10. The maximum potential hours of operation for S14, Fire Pump Engine, is based on EPA's guidance in its memo of 9/6/95 entitled "Calculating Potential to Emit (PTE) for Emergency Generators."

S6, Turbine

Ratio SO2 to S is 2:1

Turbine capacity = 219 MMbtu/hr

Natural Gas SO2 factor = 0.000568 lb/MMbtu

Hours of operation burning natural gas = 8760 hr/yr

SO2 emissions = 0.54 tons/yr

S7, Duct Burner

Ratio SO2 to S is 2:1

Duct burner capacity = 70 MMbtu/hr

Natural Gas SO2 factor = 0.000568 lb/MMbtu

Hours of operation burning natural gas = 8760 hr/yr

SO2 emissions during natural gas combustion = 0.17 tons/yr

S9, Standby Boiler

Ratio SO2 to S is 2:1

Boiler capacity = 161 MMbtu/hr

Natural Gas SO2 factor = 0.000568 lb/MMbtu

Hours of operation burning natural gas = 1000 hr/yr

SO2 emissions during natural gas combustion = 0.46 tons/yr

Distillate Oil SO2 factor = 7.85 lb/gal

Gal oil burned/hr = 2,550

Hours of operation burning distillate oil = 100 hr/yr

SO2 emissions during distillate oil combustion = 1.06 tons/yr

S14, Fire-pump Engine

Ratio SO2 to S is 2:1

Engine capacity = 16 gal/hr

Maximum weight % S per BAAQMD Regulation 9-304 = 0.5% S

Hours of operation burning diesel (estimated maximum) = 500 hr/yr

Density diesel fuel = 6.1 lb/gal

SO2 emissions during diesel combustion = 0.24 tons/yr

Total potential to emit for SO2 = 1.42 tons/yr

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB, "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", EPA agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely. . Therefore, S6, Turbine; S7, Duct Burner; and S10, Papermaking, which burn only natural gas, will not have monitoring requirements. The District will not require monitoring for natural gas combustion at S9, Standby Boiler.

EPA streamlined monitoring the fuel sulfur standard in 40 CFR 60.333(b) on July 8, 2004. EPA does not require monitoring if the Facility owner/operator has a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel that specifies that the maximum total sulfur content of the fuel is 20.0 grains/100 scf.

To monitor compliance with the fuel sulfur limit in the NSPS standard 40 CFR 60, Subpart Db, for S9, Standby Boiler, EPA requires maintenance of fuel receipts for any source that burns fuel oil with a sulfur content less than 0.5%.

The District will require monitoring for compliance with BAAQMD Regulation 9-1-304, Fuel Burning (Liquid and Solid Fuels) for S9, Standby Boiler. The District's standard monitoring for this requirement is a demonstration of fuel sulfur content for all liquid fuels. It will not be required for S14, Fire Pump Engine, because only CARB diesel, with a sulfur limit of 15 ppm is available for use in diesel engines.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S6, Turbine; S7, Duct Burner	BAAQMD 6-1-301	Ringelmann No. 1	Not Recommended
	BAAQMD 6-1-310	0.15 grain/dscf	Not Recommended
	BAAQMD 6-1-310.3	0.15 grain/dscf @ 6% O ₂	
S9, Standby Boiler	BAAQMD 6-1-301	Ringelmann No. 1	Not Recommended
	BAAQMD 6-1-304	Ringelmann No. 2	Not Recommended
	BAAQMD 6-1-310.3	0.15 grain/dscf @ 6% O ₂	Not Recommended
	BAAQMD Condition 12231, part 10	Ringelmann No. 0.5	Not Recommended
	40 CFR 60.43b(f)	Opacity < 20%, 6-min average, except for one 6-min period/hr at < 27%; limit does not apply during startup, shutdown or malfunction	none
S10, Papermaking (IR dryers)	BAAQMD 6-1-301	Ringelmann No. 1	Not Recommended
	BAAQMD 6-1-310.3	0.15 grain/dscf @ 6% O ₂	Not Recommended

PM Discussion:

Particulate monitoring for natural gas combustion

BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. Sources S6, Turbine; S7, Duct Burner; and S10, Papermaking, burn natural gas exclusively. Source S9 is required by a federally enforceable permit condition to fire only natural gas except during periods of PG&E curtailment. Therefore, in accordance with the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with this limit for these sources when burning natural gas.

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from "heat transfer operations" to 0.15 gr/dscf @ 6% O₂. These are the "grain loading" standards.

Exceedances of the grain loading standards are not associated with combustion of gaseous fuels, such as natural gas. Sources S6, Turbine, and S7, Duct Burner, burn natural gas exclusively. Source S9 is required by a federally enforceable permit condition to fire only natural gas except during periods of PG&E curtailment. Therefore, in accordance with the EPA's July 2001 "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", the District has not imposed no monitoring to assure compliance with this limit for these sources.

Particulate monitoring for fuel oil combustion

S9, Standby Boiler, is allowed to burn fuel oil for up to 100 hours/yr, when there are curtailments of natural gas. The source is restricted to burning only low-sulfur fuel, which lowers the amount of particulate emitted up to 20%. It is subject to 3 opacity limits: (1) Ringelmann 1.0 in BAAQMD Regulation 6-301; (2) Ringelmann 2.0 in BAAQMD Regulation 6-304 during tube cleaning; and (3) Ringelmann 0.5 in BAAQMD Condition 12231, part 10. It is also subject to the grain-loading limit of 0.15 grain/dscf @ 6% oxygen, dry, in BAAQMD Regulation 6-310.3.

S14, Fire-Pump Engine, which is allowed to burn fuel with a sulfur content of 0.5% by BAAQMD Regulation 9-1-304, but is required by the CARB ATCM to burn diesel with a sulfur content of 15 ppm. It only operates in cases of emergencies or for reliability testing. It is subject to the higher opacity standard of Ringelmann 2.0 in BAAQMD Regulation 6-303 because it is used as a standby source of motive power. It is subject to the grain-loading limit of 0.15 grain/dscf, dry, in BAAQMD Regulation 6-310.

The total potential to emit for particulate for sources S9 and S14 while burning fuel oil or diesel is shown below. The boiler emission factors are taken from AP-42 tables 1.3-1 and 1.3.2. The engine emission factor is taken from AP-42 table 3.3-1. The maximum potential hours of operation for S14, Fire Pump Engine, is based on EPA's guidance in its

memo of 9/6/95 entitled "Calculating Potential to Emit (PTE) for Emergency Generators."

S9, Standby Boiler

Boiler capacity = 161 MMbtu/hr

Distillate Oil PM factors = 2 lb filterable particulate/Mgal
= 1.2 lb condensable particulate/Mgal
= 3.2 lb total particulate/Mgal

Mgal oil burned/hr = 2.55

Hours of operation burning distillate oil = 100 hr/yr

PM emissions during distillate oil combustion = 0.41 tons/yr

S14, Fire-pump Engine

Engine capacity = 16 gal/hr, 223 hp

Hours of operation burning diesel (estimated maximum) = 500 hr/yr

Distillate Oil PM factors = 0.002 lb filterable particulate/hp-hr

PM emissions during diesel combustion = 0.11 tons/yr

Total potential to emit for PM from fuel oil combustion = 0.52 tons/yr

The District has not proposed monitoring for the opacity limits at S9, Standby Boiler based on several factors. S9 uses only ultra-low sulfur fuel (0.05% S by weight) for limited hours and a low potential to emit for particulate when burning fuel oil. Moreover, the Facility has not ever had an opacity violation for S9, Standby Boiler.

The theoretical maximum operation for the fire-pump engine is 500 hours per EPA's recommendations on calculating potential to emit. The engine is likely to operate less than 100 hours/yr as backup equipment. The July 2001 "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP" recommends no opacity monitoring for this type of source based on the consideration that sources in California usually combust California diesel or other low-sulfur, low aromatic diesel fuels. Moreover, the limit in BAAQMD Regulation 6-303 is Ringelmann 2.0, a high limit that the engine is unlikely to exceed.

The District also recommends no testing for grain loading at these sources based on limited hours of operation on fuel oil.

S9 is exempt from the requirement in 40 CFR 60.48b(a) to monitor opacity with a COM because, in accordance with Section 60.48b(j)(2), it burns liquid oil with potential SO₂ emissions rates of 0.060 lb/MMbtu or less and does not use a post-combustion technology to reduce SO₂ or PM emissions.

The unit is required to burn distillate oil that contains less than 0.05% sulfur by weight. The Btu content of distillate oil is 140,000 btu/gal. A typical weight for distillate oil is 7.2 lb/gal. At 0.05% sulfur, 1 MMbtu fuel oil contains 0.0036 lb sulfur, which converts to 0.0072 lb SO₂/MMbtu.

The facility will comply with the requirement in 60.48b(j)(2) to maintain fuel records of the sulfur content of the fuels burned.

VOC Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S10, Papermaking including pulping, separation processes, web production, drying, and coating	BAAQMD 8-2-301	15 pounds/day or 300 ppm, dry basis (applies to pulping, web separation and drying)	None
	BAAQMD 8-4-302	5 ton/calendar year	Records
	BAAQMD 8-12-301	2.2 lb VOC/gal (applies to coating)	Records

VOC Discussion:

VOC is emitted by S10, Papermaking, in three different parts of the operation or line. VOC, which may include methanol are generated by the breakdown of paper fibers and are emitted during the web production and drying. VOC is also emitted during the solvent cleaning of felt and during the coating process at the end of the line. Each of these operations is subject to a different rule in Regulation 8, Organic Compounds.

The monitoring for Regulation 8, Rules 4 and 12 is recordkeeping, which is the standard monitoring requirement for solvent and coating use.

The District recommends no monitoring for Regulation 8, Rule 2, Miscellaneous Operations, because monitoring is not feasible due to the lack of stacks at the facility. However, the District has determined that the concentration of fugitive emissions at the facility is low (see detailed explanation in Section IV), so it is assumed that the facility has a large margin of compliance with this standard.

Other changes to the permit in this action

The standard language at the beginning of the section has been updated.

A note has been added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.

The headings at the top of the tables have been updated. "Emission Limit Citation" has been changed to "Citation of Limit" because not every limit is an emission limit. "Emission Limit" has been changed to "Limit" because not every limit is an emission limit.

Regulation 6, Particulate Matter and Visible Emissions, was renumbered as Regulation 6, Rule 1, and renamed as Particulate Matter, General Requirements on December 5, 2007.

The equivalent rule in the State Implementation Plan (SIP) is Regulation 6, Particulate Matter and Visible Emissions, which was approved in a Federal Register notice of September 4, 1998. This change will be made for all sources in this action.

The description of the BAAQMD 6-301 limit in Section VII has been corrected to read "for < 3 min/hr."

The "type of limit" has been changed to "Opacity" for BAAQMD Regulation 6-1-301, because it is an opacity standard.

The "type of limit" has been changed to "FP" for BAAQMD Regulation 6-1-310 and 6-1-311, because it is a filterable particulate standard.

The turbine and duct burner are subject to BAAQMD Regulation 1-107, Combination of Emissions, which states:

“Where air contaminants from two or more sources are combined prior to emission and there are no adequate and reliable means to establish the nature, extent and quantity of emission from each source, District Regulations shall be applied to the combined emission as if it originated in a single source. Such emissions shall be subject to the most stringent limitations and requirements of District Regulations applicable to any of the sources whose air contaminants are so combined.”

Currently, the turbine and the duct burner, have most of the same requirements. However, to comply fully with Regulation 1-107, the District has added the turbine emissions limitations to the duct burner table and added to the turbine table the heat transfer particulate limit, set forth in BAAQMD Regulation 6-310.3.

The startup exemption from the NO_x limit in BAAQMD Regulation 9, Rule 7, has been added to the Section VII tables for S6, Turbine, and S7, Duct Burner.

The NO_x limit pursuant to 40 CFR 60.332(a)(2) was corrected from 50 ppm to 122 ppm. This basis for this change is set forth in Section C.IV of this statement of basis. The monitoring in the NSPS standard now allows use of existing CEMs to determine compliance with the NO_x limit. The facility will use this option, along with the 4-hr average in the new monitoring requirements. The NSPS monitoring will no longer be subsumed by the permit shield. The limit now states that it does not apply during startup, shutdown, and malfunction, in accordance with 40 CFR 60.8(c).

Section 60.334(h)(3) of the NSPS standard no longer requires monitoring of sulfur in natural gas if:

"The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less."

The Facility will use this option. The NSPS monitoring will no longer be subsumed by the permit shield and the standard has been added to the Section VII table for S6. This limit has not been added to the table for S7, Duct Burner, since it is a limit on the fuel, not the SO₂ emissions at the combined stack.

The new hourly heat input limits in BAAQMD Condition 14522, part 7 and 8, have been added to the tables for S6 and S7.

Notes have been added to the limits in the table for S9, Standby Boiler, to clarify that when the source is subject to each limit.

The fuel sulfur certification requirement in BAAQMD Condition 12231, part 13, was added to the table for S9.

The opacity requirements were added to the table for S9. They had been omitted previously in error.

Recordkeeping has been added for the hours of operation limits in BAAQMD Condition 12231, part 2 and 3, in the table for S9.

The limits in BAAQMD Regulation 8, Rules 2, 4, and 12; Regulation 6; and Regulation 9, Rule 1, have been added to the table for S10, Papermaking.

Tables for the Cold Cleaners, S11-S13, and the Fire Pump Engine, S14, have been added.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. Section VII is included for reference purposes only. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to the permit in this action

An alternate method was added for BAAQMD Regulation 6-310 and 6-310.3.

A test method was added for the opacity limit in Subpart Db of the NSPS. S9 is subject to this standard.

IX. Permit Shield

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Following is the detail of the permit shields that were requested by the Facility.

NON-APPLICABLE REQUIREMENTS

1. The District has approved the following permit shields.

S7, Duct Burner-BAAQMD Regulation 9-7

Not a boiler, steam generator, or process heater that directly transfers heat for combustion gas to water or process steam

S7, Duct Burner-NSPS 40 CFR 60

The Duct Burner is not subject to Subparts D, Da, and Db due to its size (70 MMbtu/hr). It is not subject to Subpart Dc because it was built before 1989 and has not been modified.

S9, Standby Boiler-BAAQMD Regulation 1-520

Boiler capacity is below 250 MMbtu/hr

S9, Standby Boiler-BAAQMD Regulation 1-521

The APCO has not required additional CEMs.

S10, Papermaking, etc.-BAAQMD Regulation 1-520

Papermaking is not one of the categories listed in BAAQMD Regulation 1-520.

S10, Papermaking, etc.-BAAQMD Regulation 1-521

The APCO has not required additional CEMs.

S10, Papermaking, etc.-NSPS 40 CFR 60

The facility is not considered a Kraft pulp mill in accordance with 40 CFR 60.281. There is no applicable subpart for recycle paperboard plants.

Unpermitted Organic Chemical Storage Tanks-Regulation 8, Rule 5, Storage of Organic Liquids

Organic chemicals have a vapor pressure below 25.8 mmHg.

Facility-BAAQMD Regulation 6-302

The APCO has not required the owner/operator to install opacity monitors.

Facility- BAAQMD Regulation 6-502

The APCO has not required the owner/operator to install opacity monitors.

Facility-BAAQMD Regulation 8, Rule 22, Valves and Flanges at Chemical Plants
The facility is not a chemical plant.

Facility-SIP Regulation 8, Rule 25, Pump and Compressor Seals at Petroleum Refineries, Chemical Plants, Bulk Plants and Bulk Terminals
The facility is not a petroleum refinery, chemical plant, bulk plant or bulk terminal.

Facility-BAAQMD Regulation 8, Rule 28, Pressure Relief Valves at Petroleum Refineries and Chemical Plants
The facility is not a petroleum refinery or chemical plant.

Facility-40 CFR 60 Notifications
EPA has delegated the authority to receive delegations from sources for most subparts of the NSPS on April 23, 1997.

Facility-Coating MACT standard
Facility is not a major source of hazardous air pollutants.

Facility-40 CFR 68, Accidental Release
Facility does not store large quantities of materials subject to this standard.

The above Permit Shields are recommended for approval. The District is in agreement with the basis for each request.

2. The following requested permit shield is disallowed:

S10, Papermaking, etc.-BAAQMD Regulation 8, Rule 2
Papermaking is considered a "miscellaneous operation." Therefore, this permit shield cannot be approved.

Other changes to permit

The permit shield from BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids, has been moved from the "Facility" table to a separate table since it is not a facility requirement.

The request for the following permit shields in the "Facility" table has not been renewed:

- BAAQMD Regulation 11, Rules 2-16
- 40 CFR 52
- NSPS Subpart GG, 40 CFR 60.334(b)(2) (sulfur and nitrogen monitoring, natural gas)
- NSPS Subpart GG, 40 CFR 60.334(c)(2) (periods of excess emissions, SO₂, natural gas))

No monitoring requirements from the NSPS Subpart GG for the turbine will be subsumed because EPA has modified the monitoring in the standard.

The following permit shield has been modified because the rule no longer exists in the District's regulations. It is now only in the SIP.

- Facility-BAAQMD Regulation 8, Rule 25, Pump and Compressor Seals at Petroleum Refineries, Chemical Plants, Bulk Plants and Bulk Terminals

D. Alternate Operating Scenarios

Graphic Packaging International Inc. (GPI) proposed operating under different scenarios after it has installed different equipment. Since the facility would have to obtain an authority to construct anyway, its Title V permit would have to be revised to reflect new conditions. Therefore, its proposed addition of new equipment is not considered to be different operating scenarios.

1. In the future, Graphic Packaging International Inc. (GPI) may add a new coating operation for backside coating of some paperboard, after required permits and approvals are received.
2. In the future, GPI may rebuild the paper machine to increase production, after required permits and approvals are received.
3. In the future, GPI may use specialty coatings to a limit amount of paperboard products, after required permits and approvals are received

E. Compliance Status

The BAAQMD Compliance and Enforcement Division conducted a compliance review. The District found that there is no ongoing non-compliance and no recurring pattern of violations.

The compliance report is contained in Appendix A of this permit evaluation/statement of basis.

F. Differences between the Application and the Proposed Permit

The application does not list BAAQMD Regulation 1-107 as an applicable requirement. Therefore, the facility has not considered the consequences of the commingled emissions at the combined stack for S6, Turbine, and S7, Duct Burner.

The application does not list 40 CFR 60, Subpart Db as an applicable requirement for S9, Standby Boiler.

The application does not list the following standards for the papermaking operation:

- BAAQMD Regulation 8, Rule 2
- BAAQMD Regulation 8, Rule 4
- BAAQMD Regulation 8, Rule 12
- BAAQMD Regulation 6
- BAAQMD Regulation 9, Rule 1

APPENDIX A
BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

June 15, 2011

TO: BRIAN BATEMAN – DIRECTOR OF ENGINEERING *SSL for BFB*
FROM: KELLY WEE – DIRECTOR OF ENFORCEMENT *Jan for KW*
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

GRAPHIC PACKAGING INTERNATIONAL, INC.; SITE # A0732

Background

This review was initiated as part of the District evaluation of an application by Graphic Packaging International, Inc. (Graphic Packaging) for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Compliance Review

1. Violation History

Staff reviewed Graphic Packaging, Annual Compliance Certifications for May 23, 2006 to May 23, 2011 and found no ongoing non-compliance and no recurring pattern of violations. Staff also reviewed the District compliance records for Graphic Packaging May 23, 2006 to May 23, 2011. During this period Graphic Packaging was found not to have any instances non-compliance.

2. Complaint History

The District did not receive any air pollution complaints alleging Graphic Packaging as the source over the period of this compliance review.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the permit period, May 23, 2006 to May 23, 2011, the District received two (2) notifications for RCA's.

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, open variances, or open abatement orders for Graphic Packaging over the permit period or thereafter.

Conclusion

The Compliance and Enforcement Division has made a determination that for the five year period Graphic Packaging was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule or additional permit terms. The Division does not have any recommendations for any additional permit conditions and limitations to improve compliance beyond what is already contained in the Title V Permit under consideration.

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

BARCT

Best Available Retrofit Control Technology

Basis

The underlying authority that allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEM

A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO_x concentration) in an exhaust stream.

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

CO₂

Carbon Dioxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

dscm

Dry Standard Cubic Meter

E 6, E 9, E 12

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EFRT

An "external floating roof tank" minimizes VOC emissions with a roof with floats on the surface of the liquid, thus preventing the formation of a VOC-rich vapor space above the liquid surface as the level in the tank drops. If such a vapor space were allowed to form, it would be expelled when the tank was re-filled. On an EFRT, the floating roof is not enclosed by a second, fixed tank roof, and is thus described as an "external" roof.

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District Regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

FR

Federal Register

FRT

Floating Roof Tank (See EFRT and IFRT)

GDF

Gasoline Dispensing Facility

GLM

Ground Level Monitor

grains

1/7000 of a pound

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Hg

Mercury

HHV

Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

IFRT

An "internal floating roof tank" minimizes VOC emissions with a roof with floats on the surface of the liquid, thus preventing the formation of a VOC-rich vapor space above the liquid surface as the level in the tank drops. If such a vapor space were allowed to form, it would be expelled when the tank was re-filled. On an IFRT, the floating roof is enclosed by a second, fixed tank roof, and thus is described as an "internal" roof.

LHV

Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60F.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of any regulated air pollutant, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures

MSDS

Material Safety Data Sheet

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPs
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOCS
Notification of Compliance Status

NO_x
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O₂
The chemical name for naturally-occurring oxygen gas.

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

POHC

Precursor Organic Hydrocarbon

PM

Total Particulate Matter

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PRD

Pressure Relief Device

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

RMP

Risk Management Plan

SCR

A "selective catalytic reduction" unit is an abatement device that reduces NO_x concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NO_x compounds to nitrogen gas.

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO₂

Sulfur dioxide

SO₃

Sulfur trioxide

THC

Total Hydrocarbons (NMHC + Methane)

therm

100,000 British Thermal Unit

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TRE

Total Resource Effectiveness

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

TRS

"Total reduced sulfur" is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO₂ that will be present in the combusted fuel gas, since sulfur compounds are converted to SO₂ by the combustion process.

TVP

True Vapor Pressure

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
C	=	degrees Celsius
cfm	=	cubic feet per minute
F	=	degrees Fahrenheit
f ³	=	cubic feet
g	=	gram
gal	=	gallon
GLC	=	ground level concentration
gpm	=	gallons per minute
gr	=	grain
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
max	=	maximum
min	=	minute
M	=	thousand
MM	=	million
m ²	=	square meter
Mg	=	mega-gram, one thousand grams
μg	=	micro-gram, one millionth of a gram
min	=	minute

mm	=	millimeter
MM	=	million
MMbtu	=	million btu
mm Hg	=	millimeters of Mercury (pressure)
MW	=	megawatts
ppb	=	parts per billion
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
S	=	sulfur
scfm	=	standard cubic feet per minute
std	=	standard
vol	=	volume
wt	=	weight
yr	=	year

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

APPENDIX C

ENGINEERING EVALUATION FOR APPLICATION 257

**ENGINEERING EVALUATION REPORT
SOLVENT COLD CLEANERS
LOSS OF EXEMPTION**

Plant Name: Jefferson Smurfit Corp.

Plant Number: 732

Application Number: 00257

BACKGROUND

This evaluation report template is to facilitate the permitting of existing solvent cold cleaners which are/were exempt from District permitting requirements until September 1, 1999. This evaluation template applies to any solvent cold cleaner that was installed prior to September 1, 1999, and is/was exempt from District permitting requirements per Regulation 2, Rule 1, Section 118.4 or 118.7. Any cold cleaner installed on or after September 1, 1999, is considered a new source, and will be evaluated in accordance with the New Source Review requirements of Regulation 2 Rule 2. This evaluation report template cannot be used for a cold cleaner installed on or after September 1, 1999. In addition, this template cannot be used for a cold cleaner that was not exempt prior to September 1, 1999. Also, the loss of exemption does not affect solvent cleaning at semiconductor fab areas that meet the exemption in Reg. 8-16-112.

The Applicant is applying for a Permit to Operate for one or more solvent cold cleaners that was/were exempt from permit requirements until September 1, 1999. The "Loss of Exemption" is triggered by amendments to Regulation 8, Rule 16. On September 16, 1998, Section 8-16-303.5 was added to impose a 50 gram/liter VOC standard for cold cleaners. This standard becomes effective on September 1, 1999. At the same time, two limited exemptions were added to Reg. 8-16. These sections appear below.

8-16-303	Cold Cleaner Requirements: Any person who operates a cold solvent cleaning device shall conform to the following requirements. 303.5 Effective September 1, 1999, the VOC content of the cleaning solution used in a cold cleaner shall not exceed 50 g/l (0.42 lb/gal). Cold cleaners meeting the requirements of this section are not required to comply with subsection 8-16-303.4.
8-16-121	Limited Exemption, Single Cold Cleaner: Effective September 1, 1999, the VOC content limitation in Section 8-16-303.5 for cleaning solutions used in cold cleaners does not apply to one cold cleaner per facility, provided that annual solvent loss from that cold cleaner does not exceed 20 gallons per year.
8-16-122	Limited Exemption, Permitted Cold Cleaners: Effective September 1, 1999, the VOC content limitation in Section 8-16-303.5 for cleaning solutions used in cold cleaners does not apply to any cold cleaner for which a District permit to operate has been obtained pursuant to Regulation 2, Rule 1.

These changes to Reg. 8-16 have the following impacts:

- A facility may operate only one (1) exempt cold cleaner using solvent with a VOC content greater than 50 g/l, provided the solvent loss from that cleaner is ≤ 20 gal/yr.
- Any additional cold cleaners must comply with the VOC standard in 8-16-303.5 (≤ 50 g/l VOC) in order to remain exempt.
- Any permitted cold cleaner is exempt from the VOC standard in 8-16-303.5, and therefore, may continue to use cleaning solvent with a VOC content greater than 50 g/l.

The applicant has opted to permit the cold cleaner(s) addressed in this application, rather than switch to cleaning solvent that meets the 50 g/l standard in Reg. 8-16.303.5.

EMISSION SUMMARY

Each solvent cold cleaner permitted under this application is considered a “loss of exemption” source per Reg. 2-1-424, and therefore, is not a new or modified source. Consequently, there is no cumulative emission increase associated with this permit application, per Reg. 2-2-212.

Cumulative Increase = ZERO for all pollutants

POC/NPOC emission calculations may be useful for emission inventory purposes, or for determining actual facility emissions for future emission offset determinations. A properly completed Data Form S for each cold cleaner will enable the District to update the databank emission inventory. Therefore, actual emission calculations are not necessary as part of this application.

STATEMENT OF COMPLIANCE

Each cold cleaner is subject to the “loss of exemption” P/O fee in Regulation 3. Per Schedule E, the minimum P/O fee for each cold cleaner is \$100.00. The applicant has paid applicable permit fees for this application.

Each solvent cold cleaner is subject to the “Cold Cleaner Requirements” in Sections 8-16-303.1 through 303.4. The compliance data on the application form have been reviewed, and any non-complying conditions have been corrected.

NESHAP: A cold cleaner with a solvent capacity greater than or equal to 2 gallons AND which uses a solvent with more than 5% by weight of any one or a combination of the following halogenated solvents (carbon tetrachloride, chloroform, perchloroethylene, 1,1,1-trichloroethane, trichloroethylene, or methylene chloride) is subject to the Halogenated Solvent Cleaner NESHAP. *(check applicable section below)*

- ☒ Cold cleaners are not subject to NESHAP
-OR-
☐ Cold cleaner(s) complies with NESHAP by: *(check all that apply)*
- ☐ Cover and 2.5 cm (1 in.) water layer;
 - ☐ Cover and 0.75 freeboard ratio; or
 - ☐ Cover (remote reservoir only).

Because each cold cleaner is a “loss of exemption” source, it is not considered to be a new source, per Reg. 2-2-225. Therefore, each cold cleaner is not subject to the following:

NSR BACT or offset requirements of Reg. 2-2-301 / 302;
Toxic Risk Management Policy; and
Public notification requirements of Reg. 2-1-412.

The proposed project is considered ministerial under Regulation 2-1-311 and therefore is not subject to California Environmental Quality Act (CEQA) review.

The engineering review for this project requires no more than the application of standard permit conditions and standard emission factors as described in the District's Permit Handbook (chapter 6.1 for cold solvent cleaning), and therefore is not discretionary as defined by CEQA.

PERMIT CONDITIONS

The following conditions apply to each solvent cold cleaner in this application.

1. Net usage of ZEP Dyna 143 at S-11, S-12, and S-13 shall not exceed 20 gallons per source, in any consecutive 12-month period. (basis: Cumulative Increase)
2. Cleanup solvent other than the material specified in Condition 1 may be utilized and/or solvent usage in excess of the limit specified in Condition 1 is allowed, provided that the Permit Holder can demonstrate that all of the following are satisfied:
 - a. Total POC emissions from S-11, S-12, and S-13 each do not exceed 132 pounds in any consecutive 12-month period; and
 - b. Total NPOC emissions from S-11, S-12, and S-13 each do not exceed 0 pounds in any consecutive 12-month period; and
 - c. The use of these materials does not increase toxic air contaminant emissions above any risk screening trigger level.
(basis: Cumulative Increase and Toxic Risk Screen)
3. To determine compliance with the above conditions, the Permit Holder shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information:
 - a. Type and monthly usage of all POC and NPOC-containing materials used;
 - b. If a material other than that specified in Condition 1 is used, POC, NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Condition 2, on a monthly basis;
 - c. Monthly usage and/or emission calculations shall be totaled for each consecutive 12-month period.

All records shall be retained on-site for two years, from the date of entry, and made available for inspection by District staff upon request. These requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
(basis: Cumulative Increase and Toxic Risk Screen)

PERMIT TO OPERATE RECOMMENDATION

Staff recommends that the Applicant be issued a Permit to Operate, with an **effective date of September 1, 1999**, for the equipment listed below.

S-11 Solvent Cold Cleaner, ZEP Dynaclean, 30 gallon capacity

S-12 Solvent Cold Cleaner, ZEP Dynaclean, 30 gallon capacity

S-13 Solvent Cold Cleaner, ZEP Dynaclean, 30 gallon capacity

EXEMPTIONS

Sources exempt from 8-16-303.5 VOC Standard:

Per Reg. 8-16-122, each source above for which a P/O is issued is exempt from the cleaning solvent VOC standard in Reg. 8-16-303.5.

One Source Exempt from Permits and from 8-16-303.5 VOC Standard:

Per Reg. 8-16-121, this facility may have one exempt (from permits) cold cleaner that is also exempt from the 50 g/l cleaning solution VOC standard in Reg. 8-16-303.5. For a source to be exempt from both permits and the 50 g/l VOC standard, a source must meet all of the following criteria:

- a. Volatile Organic Compounds used which have initial boiling points greater than 302°F and the initial boiling point exceeds the maximum operating temperature by at least 180°F.
- b. The equipment or container has a capacity of less than 35.1 gallons of liquid; for remote reservoir cold cleaners, capacity is defined as the volume of the remote reservoir.
- c. The equipment or container has a liquid surface area less than 7 ft²; or for remote reservoir cold cleaners, the sink or working area has a horizontal surface area less than 7 ft².
- d. If solvent flow is used, only a continuous fluid stream is used (not a fine, atomized, or shower type spray).
- e. Solvent loss (evaporation) from the cold cleaner does not exceed 20 gallons per year.

Staff recommends that the Applicant be issued a **Certificate of Exemption** for the cold cleaner described below.

Solvent Cold Cleaner, ZEP Dynaclean, 30 gallon capacity

(Exempt from permits and from 8-16-303.5)

Application Reviewed By: _____

Dennis Jang, AQE II

Date: 9/13/99

Template: H:\pub_data\NSR\cold-cln\eval-rpt.doc (8/12/99)

APPENDIX D

ENGINEERING EVALUATION FOR APPLICATION 4696

**ENGINEERING EVALUATION
JEFFERSON SMURFIT CORPORATION USA
APPLICATION #4696 - PLANT #732**

BACKGROUND

Jefferson Smurfit Corporation USA submitted permit application #4696 to obtain a permit to operate for their existing standby emergency electric generator. The following standby emergency electric generator is the Loss-of-Exemption source:

FIRE PUMP
S-14 ~~Emergency Electric Generator~~: diesel engine, Fairbanks Morse, 28240, S/N = K3M1015491, Maximum Firing Rate = 2.1 MMBtu/hr, 223 hp.

*FRW
1/25/02*

S-14 has been operating unmodified since September 4, 1984. S-14 has lost its exemption status due to changes in regulation.

EMISSIONS SUMMARY

Engine Properties (basis for annual and daily emission calculations):

S-14
Full-Load Output Rating = 223 hp
Annual Use = 100 hr/yr
Fuel Consumption = 15 gal/hr
Emission factor (based on application data)
NOx = 0.024 lb/hp-hr
CO = 0.0095 lb/hp-hr
PM10 = 0.0012 lb/hp-hr
POC = 0.0021 lb/hp-hr

NOx = (223 hp) * (0.024 lb/hp-hr) * (100 hr/yr) = 535.2 lb/yr
CO = (223 hp) * (0.0095 lb/hp-hr) * (100 hr/yr) = 211.85 lb/yr
PM10 = (223 hp) * (0.0012 lb/hp-hr) * (100 hr/yr) = 26.76 lb/yr
POC = (223 hp) * (0.0021 lb/hp-hr) * (100 hr/yr) = 46.83 lb/yr

CUMULATIVE INCREASE

The emissions from this source do not count toward the facility's cumulative increase, as it is not a "new or modified source."

BACT

This source is not subject to BACT requirements pursuant to Regulation 2, Rule 2, Section 301, as it is a loss-of-exemption source.

OFFSETS

Pursuant to Regulation 2, Rule 2, Section 302, offsets are applicable only to new or modified sources. Therefore offsets are not required.

TOXIC RISK SCREENING ANALYSIS

A risk screen is not required for the equipment evaluated in this permit application, as it was installed before May 17, 2000. Risk screens are only required for engines installed on or after May 17, 2000, which is the date that the permit exemption in Regulation 2, Rule 1 were changed.

STATEMENT OF COMPLIANCE

S-14 is a loss-of-exemption source, standby emergency electric generator; therefore, according to Regulation 9, Rule 8, Section 110.4, this source is exempted from Regulation 9, Rule 8, Section 301, 302, and 502.

9-8-110 Exemptions: The requirements of Sections 9-8-301, 302, and 502 shall not apply to the following:
110.4 Emergency standby engines.

Pursuant to the district policy, no annual limit is proposed for the hours of operation of S-14 because it is less than 250 hp and was installed prior to May 17, 2000.

S-14 is subject to Regulation 9, Rule 8, Section 231 and Section 232, which define emergency usage and reliability-related activities.

S-14 is an emergency standby engine, therefore it is subject to Regulation 9, Rule 8, Section 530, which specifies the monitoring and recordkeeping requirements.

As per Regulation 2, Rule 1, Section 312.4, this source is exempt from CEQA requirements because the source is a loss-of exemption source.

This project is a loss-of exemption case and is therefore not subject to the public school notification requirements of Regulation 2-1-412.

S-14 is also subject to the SO₂ limitations of 9-1-301 and 304, which impose guidelines on ground level SOX concentrations and require sulfur content no greater than 0.5% by weight, respectively. Compliance with both requirements is considered very likely since diesel fuel with 0.15% by weight sulfur is mandated for use in California.

As per Reg. 6-303, a person shall not emit for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, nor shall said emission, as perceived by an opacity sensing device in

good working order, where such device is required by the District regulations, be equal to a greater than 40% opacity.

A toxic risk screening analysis is not required for this project.

BACT and offsets are not triggered.

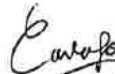
CONDITIONS

1. **Hours of Operation:** The emergency standby generator, S-14, shall only be operated for emergency use or for reliability-related activities. No time limit is imposed on the operation for reliability-related activities for S-14. Operation for emergency use is unlimited. [Basis: 9-8-330]
2. **Emergency use** is defined as the use of an emergency standby engine during any of the following: [Basis: 9-8-231]
 - 1 In the event of loss of regular natural gas supply;
 - 2 In the event of failure of regular electric power supply;
 - 3 Flood mitigation;
 - 4 Sewage overflow mitigation;
 - 5 Fire;
 - 6 Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.
3. **Reliability-related activities** is defined as the use of an emergency standby engine during any of the following: [Basis: 9-8-232]
 - 1 Operation of an emergency standby engine to test its ability to perform for an emergency use;
 - 2 Operation of an emergency standby engine during maintenance of a primary motor.
4. **Monitoring:** Each emergency standby engine shall be equipped with either: [Basis: 9-8-530]
 1. A non-resettable totalizing meter that measures and records hours of operation.
 2. A non-resettable fuel usage meter
5. **Recordkeeping:** All records shall be kept for at least two years, and shall be available for inspection by District staff upon request. The operator shall keep a monthly log of usage that shall indicate the following: [Basis: 9-8-530, 1-441]
 1. Hours of operation (total)
 2. Hours of operation (emergency) and the nature of the emergency condition.
 3. Fuel usage.

RECOMMENDATION

Waive the Authority to Construct and issue a conditional Permit to Operate to Jefferson Smurfit Corporation USA for the following equipment:

~~S-14 Emergency Electric Generator~~ ^{FAB RUMP} diesel engine, Fairbanks Morse, 28240, S/N = ^{FRW} ~~6725/02~~
K3M1015491, Maximum Firing Rate = 2.1 MMBtu/hr, 223 hp.


Carla Johana Prasetyo Jo
Air Quality Technician

APPENDIX E

ENGINEERING EVALUATION FOR APPLICATION 6776

ENGINEERING EVALUATION REPORT
JEFFERSON SMURFIT CORPORATION; SITE NUMBER A0732
APPLICATION NUMBER 6776

Background

Jefferson Smurfit Corporation has submitted this application to modify its District and Title V permits to do two things:

- Obtain relief from the NOx limitations of Regulation 9-305 during inspection and maintenance activities.
- Increase plant flexibility by increasing the allowable hours of operation of its boiler.

I&M Allowance

JSC has had, over recent years, a number of equipment breakdowns of its gas turbine. JSC and the District's Enforcement Division discussed the breakdowns and other periods of non-compliance. Several of these qualified for breakdown relief; others did not qualify as breakdowns. JSC identified a few circumstances where it could not comply with the NOx limits, and has requested that the District either revise the rule or exercise available discretion to allow it to operate under those circumstances. The Enforcement Division has indicated that it supports appropriate inspection and maintenance activities in order to avoid non-compliance.

JSC complies with the NOx limits of Regulation 9-305 by use of steam injection. Under certain conditions, high-pressure steam is either unavailable or too unstable to be useable for steam injection. The forces within the turbine must be carefully balanced, or the gas flow can suddenly reverse (termed a "full load reject"), destroying the internals of the turbine. Repair of this damage would cost over \$1.5 million. Use of an unstable source of steam raises the risk of an imbalance to unacceptable levels.

JSC has requested that its District and Title V permits be modified to allow extra time during the startup period following certain types of equipment maintenance in order to ensure that the turbine is operating properly, before introducing steam into the turbine.

Boiler

JSC's boiler received its permit to operate in August 1996 (Application #14529). This new boiler replaced two older boilers. It was subject to BACT at the time of construction, and operates with a limit of 25 ppm (BACT) based on its restricted hours of operation (1000 hours per year). SCR was deemed to be not cost effective due to the limited hours of operation.

JSC has requested that the allowable hours of operation be increased to 5000 hours per year. This request was made to allow more use of the boiler to provide steam to the plant because the company has lost money operating its turbine.

Emission Calculations

I&M Allowance

JSC has requested up to 32 extra hours per year of operation of the turbine in low-fire mode without steam injection.

These emissions will be counted toward the annual emission limit, which will not be increased.

Statement of Compliance

Request 1: Vendor testing of cogen plant equipment up to 24 hours/year with the gas turbines at low firing

Rule: 144 hours/year of I&M (48 hours during ozone season) without 9-9-301, 302, or 304 limits for

- Periods when boiler is taken out of service
- Essential gas turbine (gas turbine cannot be taken out of service without shutting down associated process unit).

Analysis

Do all requested situations include the boiler being taken out of service?

The requested condition would allow I & M testing of "cogeneration plant equipment". The examples include maintenance activities that would cause a drop in steam pressure in the boiler (thus making steam unsuitable for injection into the turbine), auxiliary boiler fire testing (that would cause instability in the steam systems, again making steam injection impossible), and duct burner repairs.

The steam supply maintenance and boiler testing activities are boiler I&M activities.

Duct burner problems are NOT boiler I&M activities.

The steam supply maintenance and boiler testing activities meet the threshold test of being I&M activities that remove the boiler from service.

Is the gas turbine essential?

An essential gas turbine is a gas turbine that cannot be taken out of service without shutting down the associated process unit. The purpose of this exemption is to avoid disrupting the industrial process associated with the cogeneration facility during routine I&M on the associated boiler. To require a shutdown of the entire facility during routine (or even required) inspections of the boilers (whose principal function is to bring the flue gas temperature down so that NOx controls can work) was deemed to be too harsh.

Jefferson Smurfit has a back-up boiler, S-9, which can provide all required steam to the plant during periods when the gas turbine is shut down. The gas turbine therefore does not meet the definition of an "essential gas turbine." It therefore cannot qualify for the exemption under 9-9-113.

Is relief from 9-9-305 available under this exemption?

The JSC turbine is subject to 9-9-305. This section allows certain turbines that had been recently built when the turbine rule was adopted to avoid installation of controls. The exemption in 9-9-113 does not provide relief from 9-9-305.

9-9-113 provides relief to turbines that rely on waste heat boilers to bring the stack temperature into the operating range of SCR. 9-9-305 was not included in the list of sections affected by 9-9-113 because 9-9-305 does not apply to SCR-controlled turbines. JSC's request is based upon an equitable argument that equivalent relief is appropriate, because it, too, relies upon a boiler in order to meet emission requirements. However, as discussed above, JSC does not meet the test of "essential turbine," so it is unnecessary to consider whether 9-9-113 should also apply to 9-9-305.

Conclusion

The proposed condition change cannot be approved. It does not comply with the requirements or purpose of the exemption contained in 9-9-113. Furthermore, the exemption in 9-9-113 does not provide relief from 9-9-305.

Jefferson Smurfit has revised its application to withdraw this request.

Request 2: Increase inspection time for cogeneration equipment when coming out of an outage (allow 3 hours for startup).

Rule: NOx limits do not apply during startup/shutdown (9-9-114).
Startup period is 3 hours; shutdown period is 1 hour (9-9-214).

Analysis:

It takes time (about two hours) to bring the turbine up to low-fire operation from a cold start. Once the turbine is operating steadily, the operators must balance the fuel firing and conduct any mechanical or other tests needed to determine if repairs or replacements are effective. For several types of maintenance, this testing may take three or four hours more than the three hours allowed for a cold startup under 9-9-214.

The applicant claims that it must, at times, operate the unit through a series of startup/shutdown cycles until all commissioned equipment is inspected. The applicant has been informed that this practice constitutes circumvention of the applicable requirements.

The proposed allowance of an additional 4 hours per startup to inspect equipment will lower emissions because it will reduce the period of time when the equipment is not subject to limitations.

The three hours allowed for startup under 9-9-214 is ample for a routine cold start. If, however, the turbine is being started up after refitting, the event has some aspects of the commissioning process for a new turbine. The District currently recognizes the unusual circumstances that exist when new equipment is being operated for the first time. All new turbine permits include permit conditions that apply only during the commissioning process. They allow limited operation at higher-than-normal emission rates; however, due to low firing, daily and annual emissions are lower than the emissions during peak operation. As a result, there is no unacceptable local impact due to the commissioning process.

The District is willing to build into the permit an allowance for limited relief from the limits in 9-9-305 during these pseudo-commissioning periods. The permit condition will ensure:

1. That daily emissions do not exceed the levels emitted during normal full-load operation.
2. That the allowance only covers those activities that the APCO has determined fall into this pseudo-commissioning category.
 - Replacement of more than 1/3 of the duct burners
 - Replacement of steam injection parts
 - Replacement of gas compressor parts
 - Computer control system upgrades
 - Gas turbine fuel nozzle replacement

In addition to the 3-hour start-up period, the limits in 9-9-305 shall not apply during a four-hour commissioning period, following specified maintenance to the turbine, provided that total daily emissions do not exceed the allowable emission levels for full load.

The applicant requested that replacement of any duct burners be followed by a 7-hour pseudo-commissioning period. This request should not be approved. The purpose of the approach is to identify those situations where significant modifications have been made to the system, such that the unit should be treated as a new turbine. The selection of 1/3 of the duct burners as the demarcation between routine maintenance and refitting is arbitrary; however, the applicant has not suggested an appropriate basis for setting a different number.

Conclusion

The proposed condition change can be approved. The District will consider the first startup after the listed events to be a commissioning period, during which the limits of 9-9-305 do not apply. The combined startup/commissioning period shall not exceed 7 hours. After that time, the requirements of 9-9-305 apply. Multiple consecutive startups will be presumed to be an attempt to circumvent the regulation, which may be overcome if the facility can show that the shutdown was necessary in order to adjust or repair the turbine.

Request 3: Increase the allowance for boiler (S-9) operation from 1,000 hours per year to 5,000 hours per year

Rule: An increase in emissions at a source that emits 10 lb/day triggers BACT. If the facility's emissions exceed 15 TPY, offsets are required.

Analysis:

BACT

Any increase in emissions at a source that emits more than 10 lb/highest day triggers BACT. The applicant claims that the boiler in question emits approximately 5 lb/hr of NOx.

BACT for Boilers

BACT for a boiler of this size (161 MMBH) is given in Table 17.3.1 of the Permit Handbook:

Pollutant	BACT1	BACT2
POC	N/d	Good combustion practice
NOx	N/d	9ppm @ 3% O ₂
SO ₂	Natural gas or RFG w/ <100ppm TRS	Natural gas or RFG w/ <100ppm TRS
CO	N/d	Natural gas or RFG w/ <100ppm TRS
PM ₁₀	N/d	Natural gas or RFG w/ <100ppm TRS

The applicant proposed a NOx limit for S-9 of 25 ppm, which does not comply with BACT2.

The applicant included a cost effectiveness analysis purporting to show that it was not cost-effective to control this boiler. The analysis has not been reviewed because it is not relevant to the BACT2 determination. The cost effectiveness calculation is relevant to the APCO's evaluation of BACT1. BACT2 operates as a floor. Once BACT is triggered, controls must be at least as stringent as BACT2, regardless of cost.

BACT for Limited-use Boilers

The District can treat equipment that has limited hours of operation as being in a different source category from equipment that may be used year-round. Examples of such sources include emergency backup engines and fire pump engines. Because such sources are only used a few hours per year, the expense of installing additional controls is not warranted, although additional controls have been used on identical equipment in sustained service.

The boiler that is the subject of this application was originally accorded this special treatment. Because it was intended to be used as a backup for the turbine's waste heat boiler, an annual limit of 1000 hours of operation per year was imposed. Because the hours were limited, the boiler was treated as being in a

different category from other boilers. The determination was made that add-on controls were not cost-effective.

The applicant has requested that the District to evaluate the cost of controls and to determine the maximum amount of hours that the boiler could operate in a discretionary mode without being considered to be in the same category as a year-round boiler. The applicant proposes to amend the application in order to keep the hours of operation just below this threshold, maximizing the hours of operation without triggering the requirement for additional controls.

The District has conducted an analysis (see Appendix) that shows that the overall cost-effectiveness of ultra-low-NOx burners meets District BACT cost-effectiveness criteria, and thus any increase in operating hours that triggers BACT would require use of such burners. There is no basis for considering a boiler operating more than 1000 hours per year to be a different source category than discretionary boilers.

Offsets

The increased emissions from the boiler must be offset at a 1:1 ratio (if offset by contemporaneous emission reductions) or at a 1:1.15 ratio (if offset by banked ERCs).

The applicant proposes to offset emission increases from increased use of the boiler by contemporaneous reductions in turbine firing. This approach would be acceptable, and could be accomplished in a number of ways. If the applicant submits a new application that cures the defects for which the current application has been denied, appropriate permit conditions can be imposed.

Conclusion

This source does not meet BACT. No increase in emissions may be approved.

Conditions

I recommend the following revisions to the existing permit condition #14522:

Sources 6, 7 - Turbine & Duct Burner

Condition #14522

Application #14529, amended by application 6776

- 1) The owner/operator of shall fire only natural gas in S-6, Gas Turbine, shall be fired only on natural gas. [basis: BACT]
- 2) Deleted 6/18/01
- 3) Deleted 7/2/01
- 4) The owner/operator shall not operate the turbine unless the steam injection system to control NOx emissions from S-6 Turbine is in operation, shall be operated during all periods of gas turbine operation except during times of start-up, and shutdown, and inspection and maintenance pursuant to Regulation 9-9-113 and 9-9-114. The startup period may be followed by a commissioning period of no more than four hours, during which the steam injection system is not required, if one or more of the following activities were conducted during the shutdown:

Replacement of more than 1/3 of the duct burners
Replacement of steam injection parts
Replacement of gas compressor parts
Computer control system upgrades
Gas turbine fuel nozzle replacement

The commissioning period shall end when the steam injection system is in operation and the turbine is in compliance with Regulation 9-9-305. The turbine shall be operated in low-fire mode during the commissioning period. The steam injection rate shall be

controlled by the gas turbine control system at all times during the operation of the turbine steam injection system. [basis: BAAQMD Regulation 9, Rule 9]

5) ~~JSC~~ The owner/operator shall install, calibrate and operate District-approved continuous monitors and recorders for oxides of nitrogen and either oxygen or carbon dioxide as required by District Regulation 10. These monitoring records shall be supplied to the Director of the Compliance and Enforcement Division upon request. [basis: BACT, Regulation 9, Rule 9]

6) All natural gas burned at S-6, Gas Turbine, and S-7, Duct Burner, shall be PUC quality gas. [basis: BAAQMD Regulation 2, Rule 1, Section 403]

Recommendations:

I recommend the following.

- The requested changes to the permit conditions for the gas turbine to allow 24 hours per year of exemption from 9-305 for inspection and maintenance have been WITHDRAWN. District staff does not have the authority to approve this request.
- The requested change to allow a 7-hour startup period following maintenance activities that involve replacement of parts or controls should be APPROVED. This condition allows for a very restrictive commissioning period following hardware changes.
- The requested increase in operating hours for the boiler, S-9, should be DENIED for failure to meet BACT.

I also recommend that the operating permit and the Title V permit be amended as follows:

- Revised the applicable requirements table in the Title V permit to reflect the following:
 - 9-9-113 does not apply to this turbine
 - 9-9-305 applies to this turbine, not 9-9-301.2
- Revise the text of Condition #14522 as described above.

Steve Hill
September 2, 2003

Appendix I. Cost effectiveness calculations

The cost effectiveness of installing ultra-low-NOx burners for Boiler S-9 is presented below.

The annualized cost of controls for this analysis is based upon information submitted by the applicant in the original application package. The methodology is from the BAAQMD Permit Handbook, updated in 2003.

Item	Amount	Reference
Engineering Study	\$25,000	Applicant
Engineered Burner Package	\$350,000	Applicant
Boiler Modifications	\$170,000	Applicant
Rental Boiler		Cost of interim rental not included
CEMS	\$100,000	Applicant
Installation	\$100,000	Applicant
Startup and training	\$12,000	Applicant
Performance test		compliance tests are currently required
Permit		Permit fees are not included
Total capital costs	\$757,000	
Interest	6 percent	BAAQMD guidance (2003)
Life of equipment	10 years	
Capital recovery factor	0.136	
O&M	\$5,000.00	Contractor Bid Letter 2/12/02
Overhead	\$4,000.00	BAAQMD guidance
Property tax	\$7,570.00	BAAQMD guidance
Insurance	\$7,570.00	BAAQMD guidance
General Administrative	\$15,140.00	BAAQMD guidance
Capital recovery	\$102,852.04	
Annualized cost of abatement	\$142,132.04	

Table 1 Costs of Controls

Emission reductions:

Overall emission reduction

The District's cost effectiveness criteria are based on overall cost effectiveness. When calculating the overall cost effectiveness of a given control technology, the emission reductions are calculated by subtracting the controlled emissions from the uncontrolled emissions.

The burners would reduce emissions from an uncontrolled level of 120 ppm to 9 ppm @ 3% oxygen (or less). The corresponding emission factors are 0.143 lb/MMBtu and 0.011 lb/MMBtu.

The furnace capacity is 161 MMBH

The resulting emission reduction (in lb/hr of max operation) is:

$$(0.03 - 0.011 \text{ lb/MMBtu}) * (161 \text{ MMBH}) = 21.3 \text{ lb/hr}$$

Incremental emission reduction

Incremental cost effectiveness is a useful calculation for determining whether or not the proposed control technology gets adequate "bang for the extra buck." The incremental cost effectiveness is calculated by dividing the *incremental* cost of the proposed control by the *incremental* emission reduction improvement over the alternative control approach.

This method results in higher cost effectiveness numbers than the overall method because the cost of getting the last bit of emission reductions may be significantly higher than the cost of getting the bulk of the emission reductions.

In the present case, Boiler S-9 already complies with a 25 ppm permit limit. All of the costs of achieving 9 ppm would be attributable to the installation of ultra-low-NOx burners.

The burners would reduce emissions from an uncontrolled level of 25 ppm to 9 ppm @ 3% oxygen (or less). The corresponding emission factors are 0.030 lb/MMBtu and 0.011 lb/MMBtu.

The furnace capacity is 161 MMBH

The resulting emission reduction (in lb/hr of max operation) is:

$$(0.03 - 0.011 \text{ lb/MMBtu}) * (161 \text{ MMBH}) = 3.1 \text{ lb/hr}$$

Cost effectiveness as a function of allowed hours of operation:

The cost effectiveness of various operating scenarios are presented below.

Hours	Overall cost effectiveness	Incremental Cost Effectiveness
1000	\$13,346 \$/ton	\$91,698 \$/ton
2000	\$6,673 \$/ton	\$45,849 \$/ton
3000	\$4,449 \$/ton	\$30,566 \$/ton
4000	\$3,336 \$/ton	\$22,925 \$/ton
5000	\$2,669 \$/ton	\$18,340 \$/ton
6000	\$2,224 \$/ton	\$15,283 \$/ton
7000	\$1,907 \$/ton	\$13,100 \$/ton
8000	\$1,668 \$/ton	\$11,462 \$/ton

At 1,000 hours per year of operation, the use of ultra-low-NOx burners would meet current District overall cost-effectiveness criteria of \$17,500 per ton.

At 2,000 hours per year of operation, the use of ultra-low-NOx burners would have an incremental cost effectiveness of \$46,000 per ton. Although the District does not have an incremental cost effectiveness guideline, this incremental cost effectiveness, when coupled with an overall cost effectiveness of less than \$7000/ton, would be considered acceptable for new source BACT.

Condition #14522

Application #14529, amended by application 6776

1) The owner/operator shall fire only natural gas in S-6, Gas Turbine. [basis: BACT]

2) Deleted 6/18/01

3) Deleted 7/2/01

4) The owner/operator shall not operate the turbine unless the steam injection system to control NOx emissions from S-6 Turbine is in operation, except during times of start-up and shutdown pursuant to Regulation 9-9-114. The startup period may be followed by a commissioning period of no more than four hours, during which the steam injection system is not required, if one or more of the following activities were conducted during the shutdown:

Replacement of more than 1/3 of the duct burners

Replacement of steam injection parts

Replacement of gas compressor parts

Computer control system upgrades

Gas turbine fuel nozzle replacement

The commissioning period shall end when the steam injection system is in operation and the turbine is in compliance with Regulation 9-9-305. The turbine shall be operated in low-fire mode during the commissioning period. The steam injection rate shall be controlled by the gas turbine control system at all times during the operation of the steam injection system. [basis: BAAQMD Regulation 9, Rule 9]

5) The owner/operator shall install, calibrate and operate District-approved continuous monitors and recorders for oxides of nitrogen and either oxygen or carbon dioxide as required by District Regulation 10. These monitoring records shall be supplied to the Director of the Compliance and Enforcement Division upon request. [basis: BACT, Regulation 9, Rule 9]

6) All natural gas burned at S-6, Gas Turbine, and S-7, Duct Burner, shall be PUC quality gas. [basis: BAAQMD Regulation 2, Rule 1, Section 403]

APPENDIX F

ENGINEERING EVALUATION FOR APPLICATION 15171

EVALUATION REPORT

Company Bluegrass Mills Holding

Application # 15171
Plant # 732

1. Background:

Bluegrass Mills Holding has applied for an alteration to the following permitted source:

S-7 Duct Burner

Bluegrass Mills will replace the current COEN model burners in the Duct Burner with the exact same side-fire design model burners. All burners, which were originally installed in 1985, will be replaced in the duct burner as part of their preventative maintenance and repair program.

2. Emission Calculations:

The proposed project is the replacement of burners. The new burner has the same capacity as the old burner and will be operated at or below 70.2 MMBTU/hr. The original burner was permitted to operate at 70.2 MMBTU/hr (Application # 29476), even though its maximum capacity is actually 75 MMBTU/hr. The facility has agreed to continue operating at this same 70.2 MMBTU/hr capacity so as to not result in any increase in permitted usage at this source. The Title V permit specifies the maximum capacity of S-7 as 70 MMBTU/hr. There will be no increase in permitted usage at this source or in upstream or downstream sources. As a result, there will be no change in emissions.

3. Statement of Compliance:

The Duct Burner (S-7) is subject to and in compliance with Regulation 9-9. This proposed replacement meets the definition of an alteration, per Regulation 2-1-233. Because there are no emissions increase expected from any criteria pollutant, Best Available Control Technology (BACT) review and offsets are not triggered.

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are not triggered. This application is ministerial (permit handbook chapter 2.1). As a result, CEQA is not triggered.

4. Conditions:

No change is recommended for Condition # 14522.

5. Authority to Construct:

I recommend that the Authority to Construct be issued to Bluegrass Mills Holding for the following:

**ALTERATION OF S-7 Replacement of COEN Burner with
Identical Replacement, 75 MMBTU/hr
[operated at 70.2 MMBTU/hr]**

6. Exemptions:

None.

12/80-ER1

By _____
PSD Engineer
Date _____

APPENDIX G

ENGINEERING EVALUATION FOR APPLICATION 20474

EVALUATION REPORT

Company Graphic Packaging International, Inc.
Application # 20474
Plant # 19441

1. Background:

Graphic Packaging International, Inc. (GPII) has applied for a Change of Conditions to Condition # 16714 to change the listed solvent from ZEP Dyna 143 to methylated siloxane for the following:

S-11 Solvent Cold Cleaner
 S-12 Solvent Cold Cleaner
 S-13 Solvent Cold Cleaner

The facility has been operating these three Cold Cleaner to clean parts for repair and maintenance at the facility. After the last amendment to the rule, Regulation 8-16-303.5 requires the use of a low VOC cleaners or the use of methylated siloxane for repair and maintenance cleaning operations. The facility now uses methylated siloxane to comply with Regulation 8-16-303.5 requirements. A change is required in their existing permit conditions to accommodate this change.

2. Emission Calculations:

Based on the maximum material usage limits proposed for GPII, the following emissions are estimated:

Proposed

Material Type	Annual Usage (gal/yr)	VOC (lb/gal)	Unabated POC (lb/yr)
Cleanup/Washes			
S-11 Methylated Siloxane	20	7.92	158.4
S-12 Methylated Siloxane	20	7.92	158.4
S-13 Methylated Siloxane	20	7.92	158.4
TOTAL			475*
		NPOC	0.24TPY

Current

Material Type	Annual Usage (gal/yr)	VOC (lb/gal)	Unabated POC (lb/yr)
Cleanup/Washes			
S-11 ZEP Dyna 143	20	6.6	132
S-12 ZEP Dyna 143	20	6.6	132
S-13 ZEP Dyna 143	20	6.6	132
TOTAL			396*
		POC	0.20TPY

NOTE: * rounded up to next tenth.

There is a cumulative increase associated with this change of conditions of the following:

Summary

NPOC = 0.24 TPY

(ZEP Dyna 143 is a POC, but methylated siloxane has been identified by the EPA as an NPOC)

Note that the facility is not eligible for any POC emission reductions credit for the change of solvent from ZEP Dyna 143 to methylated siloxane, because they changed their solvent to comply with Regulation 8-16-303.5.

TOXICS

Methylated siloxane is not identified as a toxic. As a result, no risk screening is required.

3. Statement of Compliance:

The Cold Cleaners (S-11, S-12, and S-13) are subject to and in compliance with District Regulation 8, Rule 16 by the use of methylated siloxane.

Because the emissions from S-1 are estimated to NOT exceed 10 pound per day, Best Available Control Technology (BACT) review is NOT required. Offsets are not required for this facility, because NPOC emissions do not require offsets.

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are not triggered. This application is ministerial (Permit Handbook Chapter 6.1, and hence, does not trigger the requirements of the California Environmental Quality Act (CEQA). Because the estimated emissions of TACs are below any acute or chronic risk screening trigger level, an Air Toxics Screening is not triggered.

Because the facility is NOT located within 1000 feet of any school, public notice requirements are NOT triggered.

4. Conditions

I recommend that Condition # 16714 be amended as indicated: [underlines indicate additions while strikethroughs indicate deletions]

Graphic Packaging International, Inc.
Plant 19441

Conditions for S-11, S-12, and S-13

1. Net usage of methylated siloxane at S-11, S-12,
and S-13 shall
not exceed 20 gallons per source, in any
consecutive
12-month period. (basis: Cumulative Increase)

~~2. To determine compliance with the above conditions,~~
~~the~~
~~Permit Holder shall maintain the monthly usage~~
~~records of~~
~~methylated siloxane. All records shall be retained~~
~~on-site for~~
~~five years, from the date of entry, and made~~
~~available for~~
~~inspection by District staff upon request. These~~
~~requirements shall not replace the recordkeeping~~
~~requirements contained in any applicable District~~
~~Regulations. (basis: Cumulative Increase)~~

~~Jefferson Smurfit Corporation~~
~~Plant 732~~

~~Conditions for S 11, S 12, and S 13~~

~~1. Net usage of ZEP Dyna 143 at S 11, S 12, and S 13~~
~~shall~~
~~not exceed 20 gallons per source, in any~~
~~consecutive~~
~~12 month period. (basis: Cumulative Increase)~~

~~2. Cleanup solvent other than the material specified~~
~~in~~
~~Condition 1 may be utilized and/or solvent usage~~
~~in~~
~~excess of the limit specified in Condition 1 is~~
~~allowed, provided that the Permit Holder can~~
~~demonstrate that all of the following are~~
~~satisfied:~~

~~a. Total POC emissions from S 11, S 12, and S 13~~
~~each~~
~~do not exceed 132 pounds in any consecutive 12-~~
~~month~~
~~period; and~~

~~b. Total NPOC emissions from S 11, S 12, and S 13~~
~~each~~
~~do not exceed 0 pounds in any consecutive 12-~~
~~month~~
~~period; and~~

~~c. The use of these materials does not increase~~
~~toxic~~

~~air contaminant emissions above any risk screening~~

~~trigger level.~~

~~(basis: Cumulative Increase and Toxic Risk Screen)~~

~~3. To determine compliance with the above conditions, the~~

~~Permit Holder shall maintain the following records and~~

~~provide all of the data necessary to evaluate compliance with the above conditions, including the~~

~~following information:~~

~~a. Type and monthly usage of all POC and NPOC containing materials used;~~

~~b. If a material other than that specified in Condition~~

~~1 is used, POC, NPOC and toxic component contents of~~

~~each material used; and mass emission calculations~~

~~to demonstrate compliance with Condition 2, on a~~

~~monthly basis;~~

~~c. monthly usage and/or emission calculations shall be~~

~~totaled for each consecutive 12 month period.~~

~~All records shall be retained on site for five years,~~

~~from the date of entry, and made available for~~

~~inspection by District staff upon request. These~~

~~requirements shall not replace the recordkeeping~~

~~requirements contained in any applicable District~~

~~Regulations.~~

~~(basis: Cumulative Increase and Toxic Risk Screen)~~

5. Authority to Construct:

See Section 4.

6. Exemptions:

None.

12/80-ER1

By M.K. Carol Lee
Senior Air Quality Engineer
Date_____

APPENDIX H

June 25, 1996 Letter from Best Environmental to Air Science Technologies

BEST ENVIRONMENTAL, INC.

15890 Foothill Boulevard
San Leandro, California 94578

(510) 278-4011 FAX (510) 278-4018

June 25, 1996

Air Science Technologies
247 Rodeo Avenue
Rodeo, CA 94572

Attn.: Duve LeBaron

Subject: Visible Emissions Evaluation (VEE) of a Cleaver Brooks boiler.

Test Date: May 31, 1996.

Sampling Location: Evaluation was conducted at the exhaust stack of a Cleaver Brooks boiler, located at the Jefferson Smurfit facility, 2600 De La Cruz Blvd, in Santa Clara, CA.

Sampling Personnel: Scott Chesnut of BEST ENVIRONMENTAL, Inc. (BEI).

Observing Personnel: The Bay Area Air Quality Management District was informed of the test date, however they did not have an observer present during the test program.

Process Description: Jefferson Smurfit operates a dual fuel boiler (natural gas or oil) to provide steam for their facility. The boiler was fired on oil for the VEE. Three VEE test were conducted concurrent with continuous emissions monitoring test runs.

Sampling Methods: The following source test methods was used:

EPA Method 9

Visible Emissions Evaluation.


Test Results: The table below gives the summary of the test results:

% Opacity	Boiler	Permit Limit
	0	20

Comments: Field data sheets and VEE certification are appended to this report.

If there are any questions concerning this report, please contact Regan Best, Craig Thiry or me at (510) 278-4011.

Submitted by,


Scott Chesnut
Project Manager

Reviewed by,


Regan Best
Source Test Manager

Air Science Technologies

247 Rodeo Avenue
Rodeo, CA 94572

DETERMINATION OF THE CONCENTRATIONS OF OXIDES OF NITROGEN, CARBON MONOXIDE AND OXYGEN FROM THE EXHAUST OF THE BACKUP BOILER LOCATED AT THE JEFFERSON SMURFIT CORPORATION FACILITY IN SANTA CLARA, CALIFORNIA

Date of Test: April 19, and May 31, 1996

Date of Report: June 13, 1996

Prepared for :

Mr. Bob Fields

**Jefferson Smurfit Corporation
2600 De La Cruz Blvd.
Santa Clara, CA. 95050-2663**

**Prepared by: Ken Melvin
David LeBarron
Rich Cox**

Bus. (510) 799-4638 • Fax (510) 799-6658

INTRODUCTION

On the Nineteenth of April, 1996, Air Science Technologies performed compliance emission testing of the Jefferson Smurfit Corporation Backup Boiler exhaust, Source #S-9. The unit is located at the Jefferson Smurfit Corporation, Santa Clara, California facility. The purpose of the testing was to measure the concentrations of Oxides of Nitrogen, Oxygen and Carbon Monoxide. The testing was performed when the Backup Boiler was firing on Natural Gas at greater than eighty percent of the Backup Boiler capacity. The Concentrations of the Oxides of Nitrogen and Carbon Monoxide were corrected to three percent Oxygen as required by the Permit to Construct, Application #14529. The average results of each sampling runs was calculated from the datalogger one minute data.

The methods used are presented in the BAAQMD Manual of Procedures, Volume IV, Methods ST-5 (Carbon Dioxide), ST-6 (Carbon Monoxide), ST-13A (Oxides of Nitrogen) and ST-14 (Oxygen). The copies of the stripchart and datalogger recordings, calculations of the datalogger and Certificates of Analysis of the Calibration Gases are presented in the appendixes of this report.

DISCUSSION

The stratification of stack gas was checked during the First and Second sampling runs when a traverse to measure for the concentration of Oxides of Nitrogen was performed on the Northwest and Southwest ports. These two sampling runs were Thirty minutes, or two and one-half minutes per traverse point for all twelve traverse points, plus the system response time. The results of the concentration traverse showed the stack flow to laminar. Therefore, after the first two sampling runs the third sampling run of thirty minutes in duration was performed at the center of the stack.

The concentrations of Oxide of Nitrogen, Carbon Monoxide and Oxygen were calculated and corrected for calibration drift. The average concentrations of Oxide of Nitrogen, Carbon Monoxide and Oxygen were obtain from the one minute data of each individual sampling runs.

The average results of each sampling runs are presented in the Summary of Results. The average concentration of the Oxides of Nitrogen was 14.4 ppmv and the Oxides of Nitrogen corrected to three percent Oxygen was 13.3 ppmv, the concentration of the Carbon Monoxide was 3.1 ppmv, the concentration of Carbon Monoxide corrected to three percent Oxygen was 2.9 ppmv, the concentration of Oxygen was 1.5 percent and the concentration of Carbon Dioxide was 11.1 percent.

SUMMARY OF RESULTS
JEFFERSON SMURFIT CORPORATION

Place: Santa Clara, California
Date: April 19, 1996
Time: 11:19 - 12:06
Source: Averages of the Sampling Runs of the Backup Boiler Exhaust, Source S-9

<u>Test Method and Parameter</u>	<u>Concentration</u>
ST-13A, NOx ppmv at 3 % O2 (dry)	13.3
ST-6, CO ppmv at 3 % O2 (dry)	2.9
ST-13A, NOx ppmv (dry)	14.4
ST-6, CO ppmv (dry)	3.1
ST-5, CO2 %v/v (dry)	11.1
ST-14, O2 %v/v (dry)	1.5

INTRODUCTION

On the Thirty-first of May, 1996, Air Science Technologies performed compliance emission testing of the Jefferson Smurfit Corporation Backup Boiler exhaust, Source #S-9. The unit is located at the Jefferson Smurfit Corporation, Santa Clara, California facility. The purpose of the testing was to measure the concentrations of Oxides of Nitrogen, Oxygen and Carbon Monoxide. The testing was performed when the Backup Boiler was firing on Auxilliary Fuel at greater than eighty percent of the Backup Boiler capacity. The Concentrations of the Oxides of Nitrogen and Carbon Monoxide were corrected to three percent Oxygen as required by the Permit to Construct, Application #14529. The average results of each sampling runs was calculated from the datalogger one minute data.

The methods used are presented in the BAAQMD Manual of Procedures, Volume IV, Methods ST-5 (Carbon Dioxide), ST-6 (Carbon Monoxide), ST-13A (Oxides of Nitrogen) and ST-14 (Oxygen). The copies of the stripchart and datalogger recordings, calculations of the datalogger and Certificates of Analysis of the Calibration Gases are presented in the appendixes of this report.

DISCUSSION

The stratification of stack gas was checked during earlier source testing. The results of the concentration traverse performed showed that the stack flow was laminar. Therefore, all the sampling runs were thirty minutes in duration and performed at the center of the stack.

The concentrations of Oxide of Nitrogen, Carbon Monoxide and Oxygen were calculated and corrected for calibration drift. The average concentrations of Oxide of Nitrogen, Carbon Monoxide and Oxygen were obtain from the one minute data of each individual sampling runs.

The average results of each sampling runs are presented in the Summary of Results. The average concentration of the Oxides of Nitrogen was 27.1 ppmv and the Oxides of Nitrogen corrected to three percent Oxygen was 30.5 ppmv, the concentration of the Carbon Monoxide was 0.3 ppmv, the concentration of Carbon Monoxide corrected to three percent Oxygen was 0.3 ppmv, the concentration of Oxygen was 5.0 percent and the concentration of Carbon Dioxide was 13.9 percent. The final leak check of the sampling system was Zero Cubic Feet at 22.3 inches of Mercury.

SUMMARY OF RESULTS
JEFFERSON SMURFIT CORPORATION

Place: Santa Clara, California
Date: May 31, 1996
Time: 12:03 - 14:25
Source: Averages of the Sampling Runs of the Backup Boiler Exhaust, Source S-9

<u>Test Method and Parameter</u>	<u>Concentration</u>
ST-13A, NOx ppmv at 3 % O2 (dry)	30.5
ST-6, CO ppmv at 3 % O2 (dry)	0.3
ST-13A, NOx ppmv (dry)	27.1
ST-6, CO ppmv (dry)	0.3
ST-5, CO2 %v/v (dry)	13.9
ST-14, O2 %v/v (dry)	5.0